Instructions and Parts List

3M-Matic™

a80f-if Type 11000 Powered Infeed Conveyor

Serial No._____
For reference, record machine serial number here.

Important Safety Information

BEFORE INSTALLING OR OPERATING THIS EQUIPMENT
Read, understand, and follow all safety and operating instructions.

Spare Parts

It is recommended you immediately order the spare parts listed in the "Spare Parts/Service Information" section. These parts are expected to wear through normal use, and should be kept on hand to minimize production delays.

3M Industrial Adhesives and Tapes
3M Center, Building 220-5E-06
St. Paul, MN 55144-1000

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Printed in U.S.A.

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This instruction manual covers safety aspects, handling and transport, storage, unpacking, preparation, installation, operation, adjustments, maintenance, troubleshooting, repair work and servicing plus parts list of the **3M-Matic™ a80f-if-NA** Infeed Conveyor.

3M Industrial Adhesives and Tapes
3M Center, Building 220-5E-06
St. Paul, MN 55144-1000

Edition June 2011

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The manufacturer reserves the right to change the product at any time without notice.

To Our Customers:

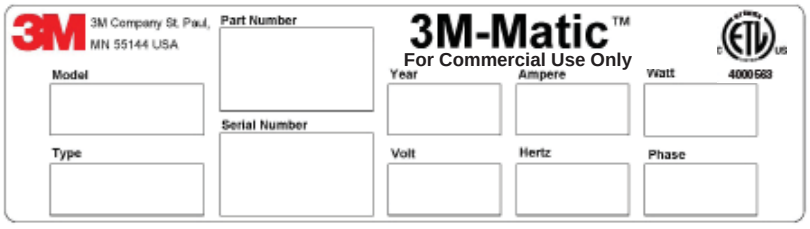
This is the 3M-Matic™ equipment you ordered. It has been set up and tested in the factory. If technical assistance or replacement parts are needed, call or fax the appropriate number.

Included with each machine is an Instructions and Parts List manual.

Technical Assistance / Replacement Parts and Additional Manuals:

Contact your service provider. Provide the customer support coordinator with the model/machine name, machine type, and serial number that are located on the identification plate (For example: Model a80f-if - Type 11000 - Serial Number 13282).

Identification Plate



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a80f-if Infeed Conveyor **Page**

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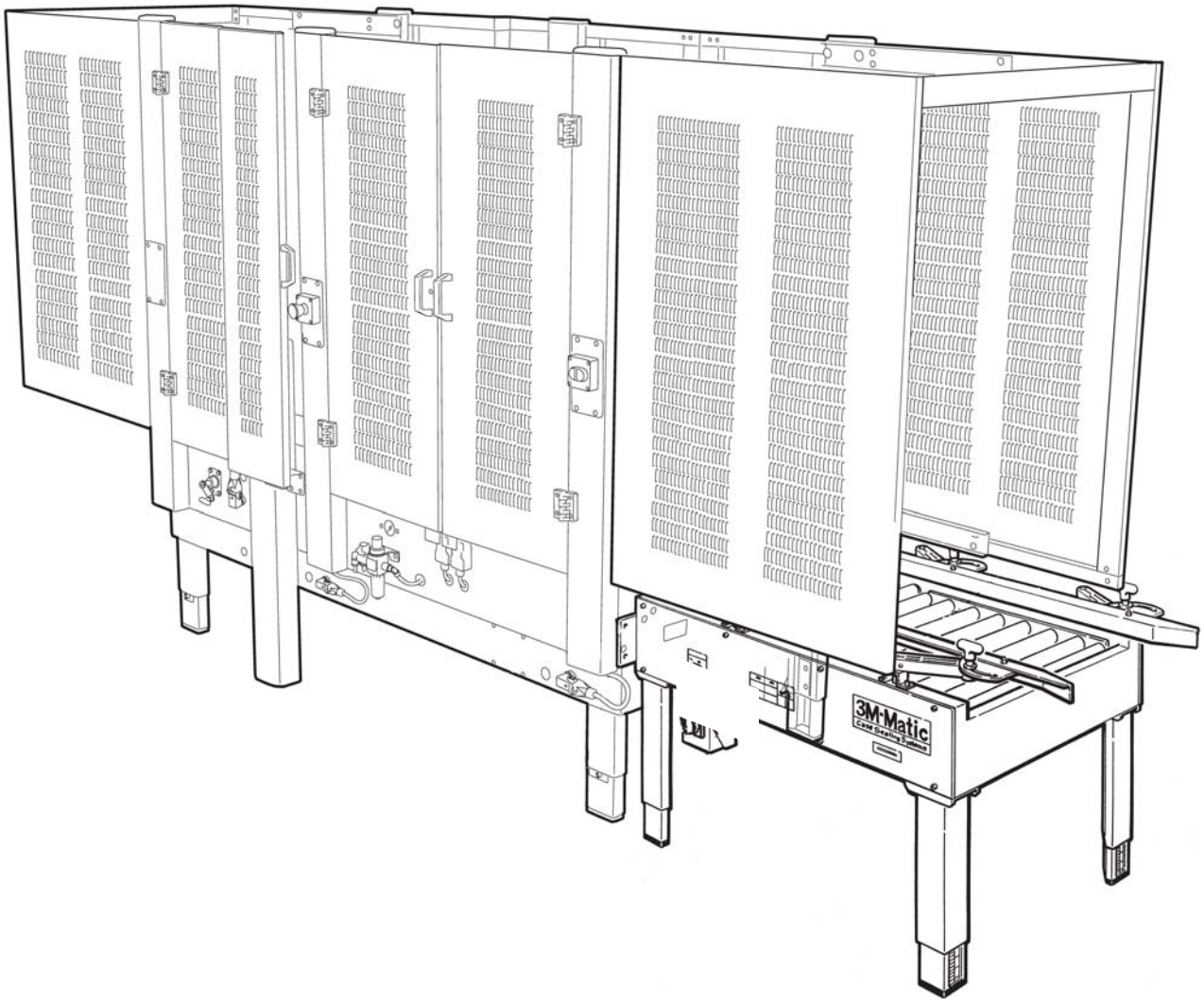
LIST OF ABBREVIATIONS, ACRONYMS

3M-Matic	- Trademark of 3M St. Paul, MN 55144-1000
AccuGlide	- Trademark of 3M St. Paul, MN 55144-1000
Scotch	- Trademark of 3M St. Paul, MN 55144-1000
Drw.	- drawing
Ex.	- for example
Figure	- exploded view figure no. (spare parts)
Figure	- Illustration
Max.	- maximum
Min.	- minimum
Nr.	- number
N/A	- not applicable
OFF	- machine not operating
ON	- machine operating
PLC	- Programmable Logic Control
PP	- Polypropylene
PU/PU Foam	- Polyurethane Foam
PTFE	- Polytetraflourethelene
PVC	- Poly-vinyl chloride
W	- Width
H	- Height
L	- Length

1.1 Manufacturing Specifications / Description / Intended Use

The **3M-Matic™ a80f-if** Infeed Conveyor is designed to automatically gate individual boxes from a flooded incoming line, and is specifically for use with the **3M-Matic™ a80f-if**. The timer can be set before each run to adjust for different box lengths.



3M-Matic™ a80f-if Infeed Conveyor, Type 11000

1.2 How to Read and Use the Instruction Manual

This instruction manual covers safety aspects, handling and transport, storage, unpacking, preparation, installation, operation, setup and adjust- ments, technical and manufacturing specifications, maintenance, troubleshooting, repair work and servicing, electric diagrams, warranty information, disposal (ELV), a definition of symbols, plus a parts list of the 3M-Matic™ **a80f-if** Infeed Conveyor 3M Industrial Adhesives and Tapes Division 3M Center, Bldg. 220-5E-06 St. Paul, MN 55144-1000 (USA) / Edition June 2011 / Copyright 3M 2011 / All rights reserved. The manufacturer reserves the right to change the product at any time without notice. Publication © **3M 2011 44-0009-2097-3.**

1.2.1 Importance of the Manual

The manual is an important part of the machine; all information contained herein is intended to enable the equipment to be maintained in perfect condition and operated safely. Ensure that the manual is available to all operators of this equipment and is kept up to date with all subsequent amendments. Should the equipment be sold or disposed of, please ensure that the manual is passed on. Electrical and pneumatic diagrams are included in the manual. Equipment using PLC controls and/or electronic components will include relevant schematics or programs in the enclosure and in addition, the relevant documentation will be delivered separately.

1.2.2 Manual Maintenance

Keep the manual in a clean and dry place near the machine. Do not remove, tear, or rewrite parts of the manual for any reason. Use the manual without damaging it. If the manual has been lost or damaged, ask your after sale service for a new copy.

1.2.3 Consulting the Manual

The manual is composed of:

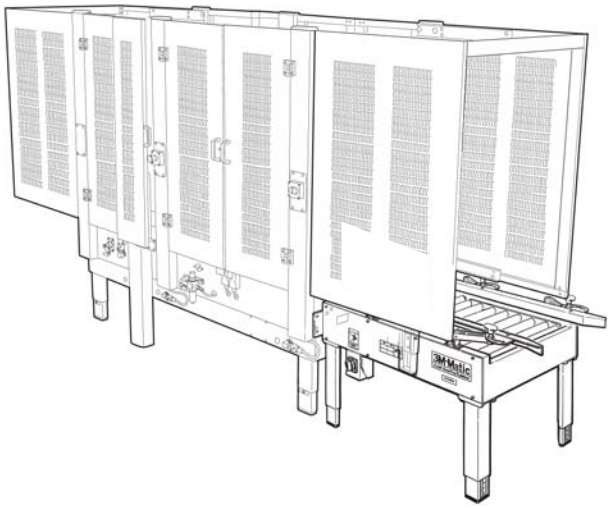
- Pages which identify the document and the machine
- Index of the subjects
- Instructions and notes on the machine
- Enclosures, drawings and diagrams
- Spare parts (last section)

All pages and diagrams are numbered.
The spare parts lists are identified by the figure identification number. All the notes on safety measures or possible dangers are identified by the symbol:

1.2.4 How to Update the Manual in Case of Modifications to the Machine

Modifications to the machine are subject to manufacturer's internal procedures. The user receives a complete and up-to-date copy of the manual together with the machine. Afterwards the user may receive pages or parts of the manual which contain amendments or improvements made after its first publication. The user must use them to update this manual.

2.1 Data Identifying Manufacturer and Machine



3M

3M Industrial Adhesives and Tapes

3M Center Bldg. 220-5E-06
St. Paul, MN 55144-1000 (USA)

3M Company St. Paul, MN 55144 USA

3M-Matic™
For Commercial Use Only

4000583

Part Number	Model	Year	Ampere	Watt

Serial Number	Type	Volt	Hertz	Phase

2.2 Warranty

Equipment Warranty and Limited Remedy: THE FOLLOWING WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND ANY IMPLIED WARRANTY ARISING OUT OF A COURSE OF DEALING, A CUSTOM OR USAGE OF TRADE:

3M sells its **3M-Matic™ a80f-if Powered Infeed Conveyor, Type 11000** with the following warranties:

1. The drive belts will be free from all defects for ninety (90) days after delivery.
2. All other parts will be free from all defects for two (2) years after delivery.

If any part is proved to be defective within its warranty period, then the exclusive remedy and 3M's and seller's sole obligation shall be, at 3M's option, to repair or replace the part, provided the defective part is returned immediately to 3M's factory or an authorized service station designated by 3M. A part will be presumed to have become defective after its warranty period unless the part is received or 3M is notified of the problem no later than five (5) calendar days after the warranty period. If 3M is unable to repair or replace the part within a reasonable time, then 3M at its option, will replace the equipment or refund the purchase price. 3M shall have no obligation to provide or pay for the labor required to install the repaired or replacement part. 3M shall have no obligation to repair or replace (1) those parts failing due to operator misuse, carelessness, or due to any accidental cause other than equipment failure, or (2) parts failing due to non-lubrication, inadequate cleaning, improper operating environment, improper utilities or operator error.

Limitation of Liability: 3M and seller shall not be liable for direct, indirect, special, incidental or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability or any other legal theory.

The foregoing Equipment Warranty and Limited Remedy and Limitation of Liability may be changed only by a written agreement signed by authorized officers of 3M and seller.

Contents – a80f-if Infeed Conveyor

(1) **a80f-if** Powered Infeed Conveyor, Type 11000
(1) Instruction and Parts Manual

3.1 General Safety Information

Read all the instructions carefully before starting work with the machine; please pay particular attention to sections marked by the symbol: ⚠

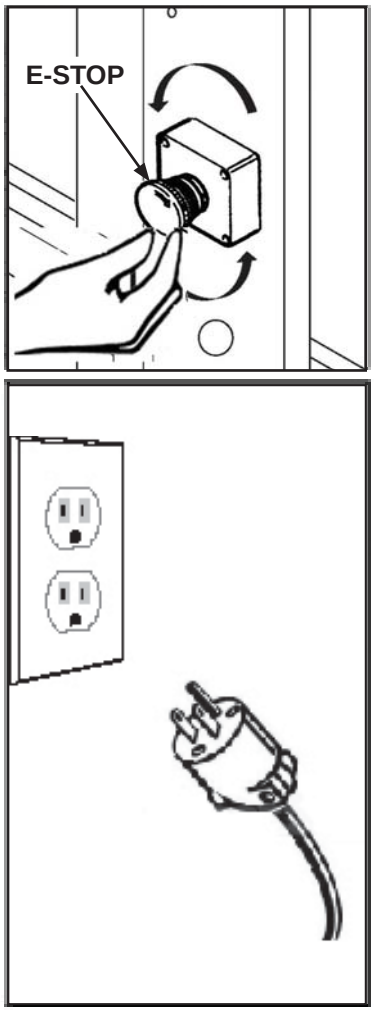


Figure 3-1

The machine is provided with a LATCHING EMERGENCY STOP BUTTON **(Figure 3-1)**; when this button is pressed, it stops the machine at any point in the working cycle. Maintain clear access to power cord while machine is operating. Disconnect plug from power source before machine maintenance **(Figure 3-1).** Also disconnect air if the machine has a pneumatic system. Keep this manual in a handy place near the machine. This manual contains information that will help you to maintain the machine in a good and safe working condition.

3.2 Explanation of Signal Word and Possible Consequences

⚠ **This safety alert symbol identifies important messages in this manual. READ AND UNDERSTAND THEM BEFORE INSTALLING OR OPERATING THIS EQUIPMENT.**

⚠ **CAUTION:** Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.

⚠ **WARNING:** Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.

3.3 Table of Warnings

WARNING

- **To reduce the risk associated with mechanical and electrical hazards:**
- Read, understand, and follow all safety and operating instructions before operating or servicing the Infeed Conveyor/Case Sealer.
- Allow only properly trained and qualified personnel to operate and service this equipment.

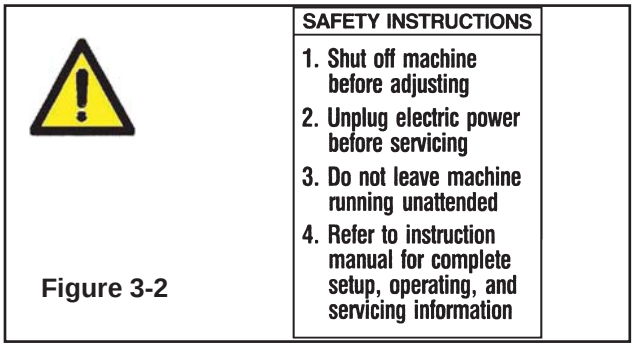

SAFETY INSTRUCTIONS
1. Shut off machine before adjusting
2. Unplug electric power before servicing
3. Do not leave machine running unattended
4. Refer to instruction manual for complete setup, operating, and servicing information

Figure 3-2

WARNING

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
- Turn electrical and air supply off and disconnect before performing any adjustments, maintenance or servicing the machine.

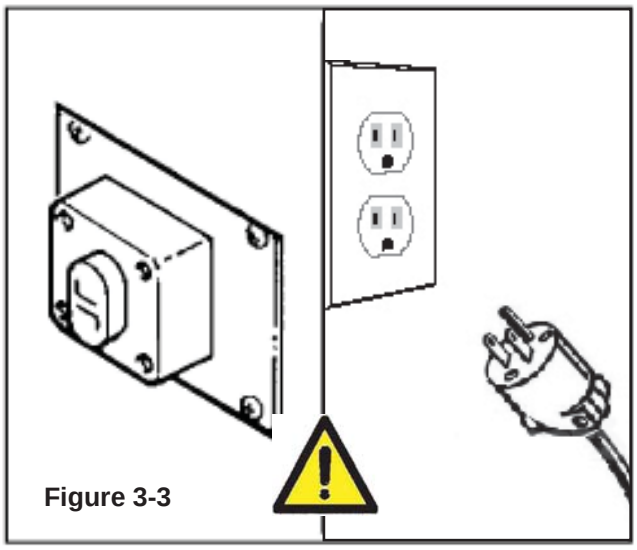


Figure 3-3

WARNING

- **To reduce the risk associated with pinches and entanglement hazards:**
- Do not leave the machine running while unattended.
- Turn the machine and air supply off when not in use.
- Never attempt to work on any part of the machine while the machine is running.

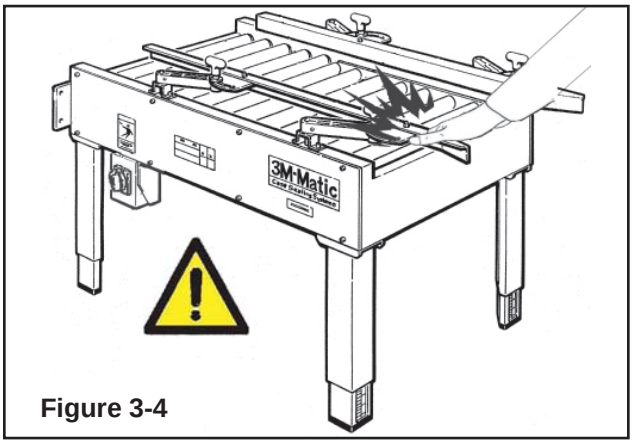


Figure 3-4

WARNING

- **To reduce the risk associated with fire and explosion hazards:**
  - Do not operate this equipment in potentially flammable/explosive environments.

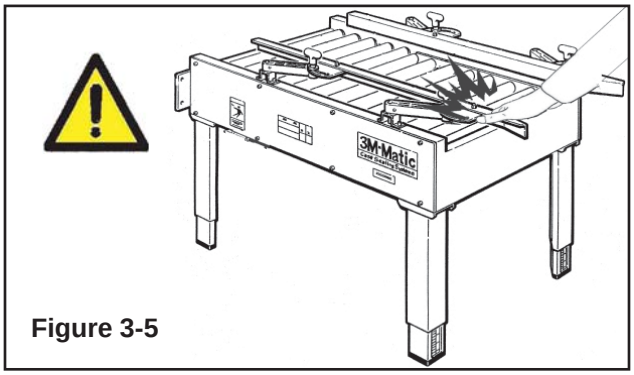


Figure 3-5

WARNING

- **To reduce the risk associated with muscle strain:**
  - Use the appropriate rigging and material handling equipment when lifting or repositioning this equipment.
  - Use proper body mechanics when removing or installing taping heads that are moderately heavy or may be considered awkward to lift.

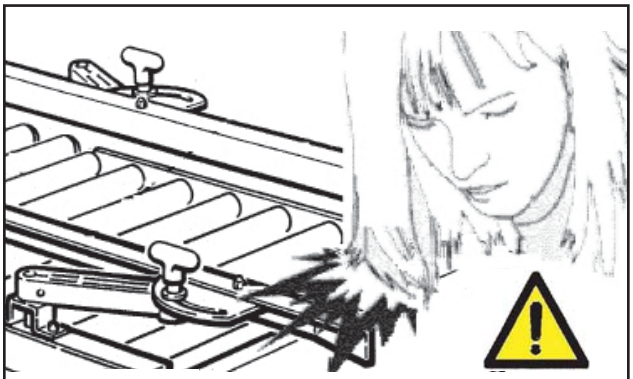


Figure 3-6

CAUTION

- **To reduce the risk associated with pinch hazards:**
  - Keep hands clear of the upper head support assembly as boxes are transported through the machine.
  - Keep hands, hair, loose clothing, and jewelry away from box compression rollers.
  - Always feed boxes into the machine by pushing only from the end of the box.
  - Keep hands, hair, loose clothing, and jewelry away from moving belts and taping heads.

3.4 Operator's Qualifications

- Machine Operator
- Mechanical Maintenance Technician
- Electrical Maintenance Technician
- Manufacturer's Technician/Specialist

3.5 Number of Operators

The operations described below have been analyzed by the manufacturer; the recommended number of operators for each operation provides the best and safest work performance**.**

Note: A smaller or greater number of operators could be unsafe.

3.6 Instructions for a Safe Use of the Machine / Definition of Operator's Qualifications

Only persons who have the skills described in the skill levels section should be allowed to work on the machine. It is the responsibility of the user to appoint the operators having the appropriate skill level and the appropriate training for each category of job**.**

3.7 Residual Hazards

The Infeed Conveyor/Case Sealer has been designed and incorporates various safety protections which should never be removed or disabled. Notwithstanding the safety precautions conceived by the designers of the machine, it is essential that the operator and service personnel be warned that the residual hazards exist which cannot be eliminated.

3.8 Recommendations and Measures to Prevent Other Hazards which Cannot be Eliminated

- The operator must stay on the working position shown in the Operation Section **(Figure 12-1)**.

- The operator must belts or put his hands inside any cavity.

WARNING

- **To reduce the risk associated with mechanical and electrical hazards:**
  - Read, understand, and follow all safety and operating instructions before operating or servicing the Infeed Conveyor/Case Sealer.
  - Allow only properly trained and qualified personnel to operate and service this equipment.

3.9 Personal Safety Measures

Safety glasses, safety gloves, safety helmet, safety shoes, air filters, ear muffs - None is required except when recommended by the user.

3.10 Predictable Actions which are Incorrect and Not Allowed

- Never try to stop/hold the box while being driven by the belts. Only use EMERGENCY STOP BUTTON.

- Never work without the safety protections.

- Never remove or disable the safety devices.

- Only authorized personnel should be allowed to carry out the adjustments, repairs or maintenance which require operation with reduced safety protections. During such operations, access to the machine must be restricted. When the work is finished, the safety protections must immediately be reactivated.

- The cleaning and maintenance operations must be performed after disconnecting the electric power.

- Do not modify the machine or any part of it. The manufacturer will not be responsible for any modifications.
- Clean the machine using only dry cloths or light detergents. Do not use solvents, petrols, etc.

- Install the machine following the suggested layouts and drawings. The manufacturer will not be responsible for damages caused by improper installation.

3.11 Operator's Skill Levels Required to Perform the Main Operations on the Machine

The Table shows the minimum operator's skill for each machine operation.

Important: The factory manager must ensure that the operator has been properly trained on all the machine functions before starting work.

Skill 1: Machine Operator
This operator is trained to use the machine with the machine controls, to feed cases into the machine, make adjustments for different case sizes, to change the tape and to start, stop and restart production.

Skill 2: Mechanical Maintenance Technician
This operator is trained to use the machine as the MACHINE OPERATOR and in addition is able to:
- Work with the safety protection disconnected
- Check and adjust mechanical parts
- Carry out machine maintenance operations/repairs

He is not allowed to work on live electrical components

Skill 2a: Electrical Maintenance Technician
This operator is trained to use the machine as the MACHINE OPERATOR and in addition is able to:
- Work with the safety protection disconnected
- Check and adjust mechanical parts
- Carry out machine maintenance operations / repairs / adjustments / repair electrical components

He is allowed to work on live electrical panels, connector blocks, control equipment, etc.

Skill 3: Specialist from the Manufacturer
Skilled operator sent by the manufacturer or its agent to perform complex repairs or modifications (on agreement with the customer).

⚠ WARNING

- **To reduce the risk associated with mechanical and electrical hazards:**
  - Allow only properly trained and qualified personnel to operate and service this machine

Operator's Skill Levels Required to Perform the Main Operations on Machine

Operation	Machine Status	Required Operator Skill	Number of Operators
Machine installation and setup	Running with safety protections disabled	2 and 2a	2
Adjusting box size	Stopped by pressing the EMERGENCY STOP button	1	1
Ordinary maintenance	Electric power disconnected	2	1
Extraordinary mechanical maintenance	Running with safety protections disabled	2	1
Extraordinary electrical maintenance	Electric power disconnected	3	1

3.12 Component Locations

Refer to **Figure 3-7** below to acquaint yourself with the various components and controls of the Infeed Conveyor.

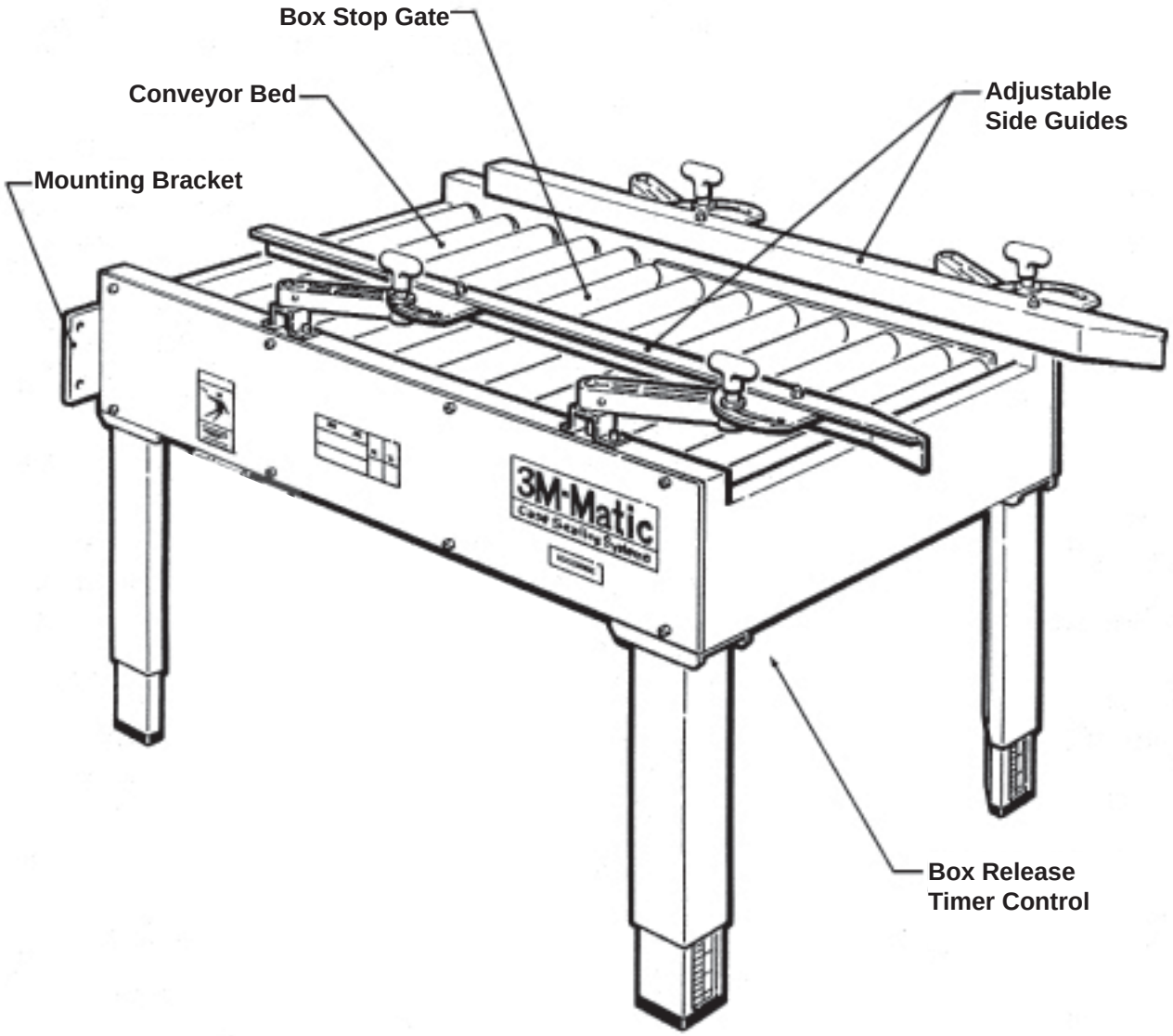


Figure 3-7—a80f-if Infeed Conveyor Components

3.13 Warnings and Replacements Labels

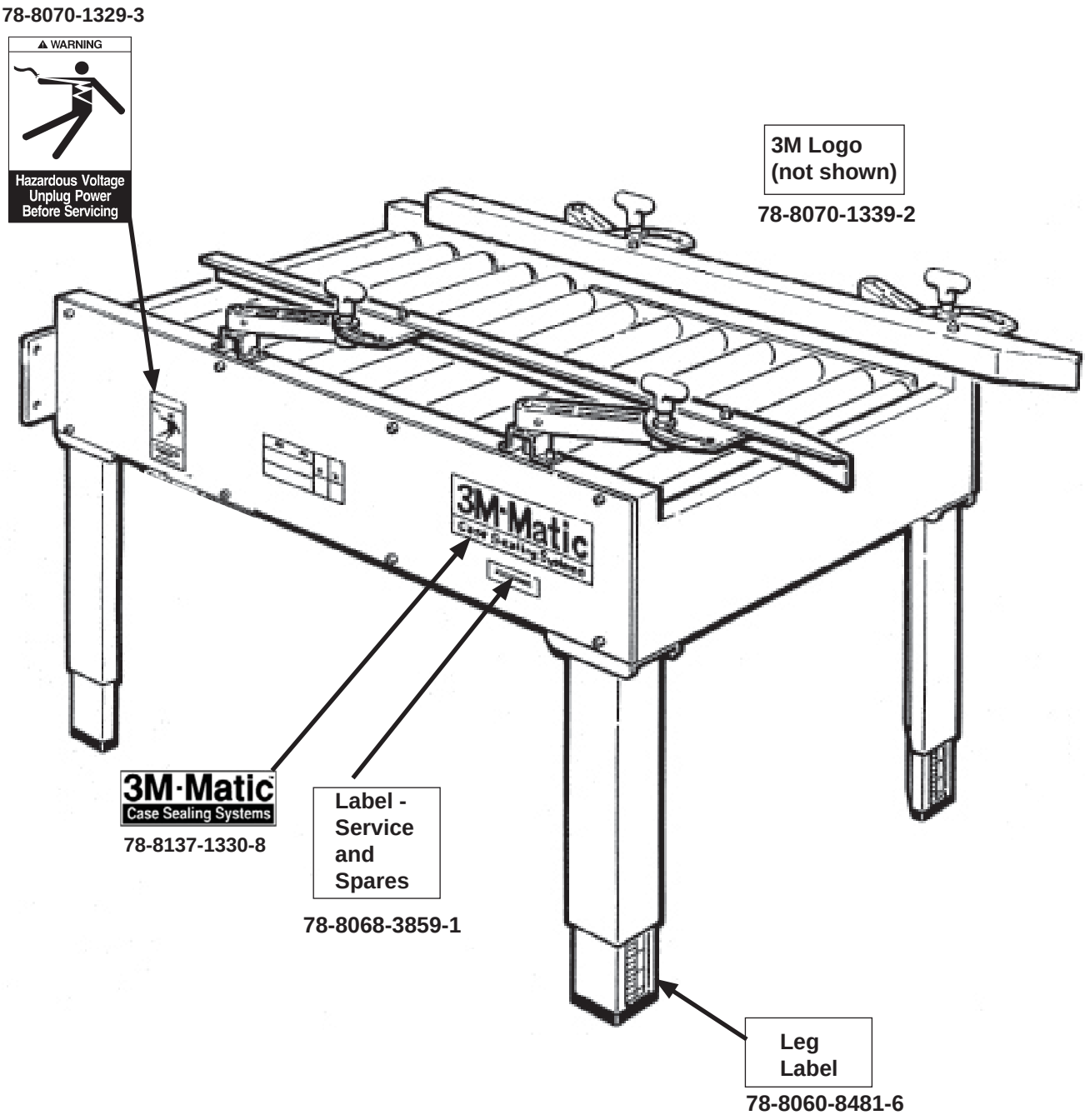


Figure 3-8 - Replacement Labels / 3M Part Numbers

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4-SPECIFICATIONS

4.1 Power Requirements

115V, 60 Hz, 2.8 Amp
5.2 bar gauge pressure [75 PSIG], 28 litre/min @ 21°C, 1.01 bar [1.0 SCFM]
at random cycle rate.

4.2 Operating Rate:

Belt speed is 0.37m/s [72 F.P.M.]

Actual production rate is dependent on operator's dexterity. Boxes must be 18 inches (457mm) apart minimum.

4.3 Operating Conditions

Use in dry, relatively clean environments at 4.4 C to 48.9° C [40° F to 120° F] with clean, dry boxes.

Note: Machine should not be washed or subjected to conditions causing moisture condensation on components.

WARNING

- **To reduce the risk associated with fire and explosion hazards:**
  - Do not operate this equipment in potentially flammable or explosive environments.

4.4 Box Board

125 to 275 P.S.I. bursting test, single wall B, or C flute.

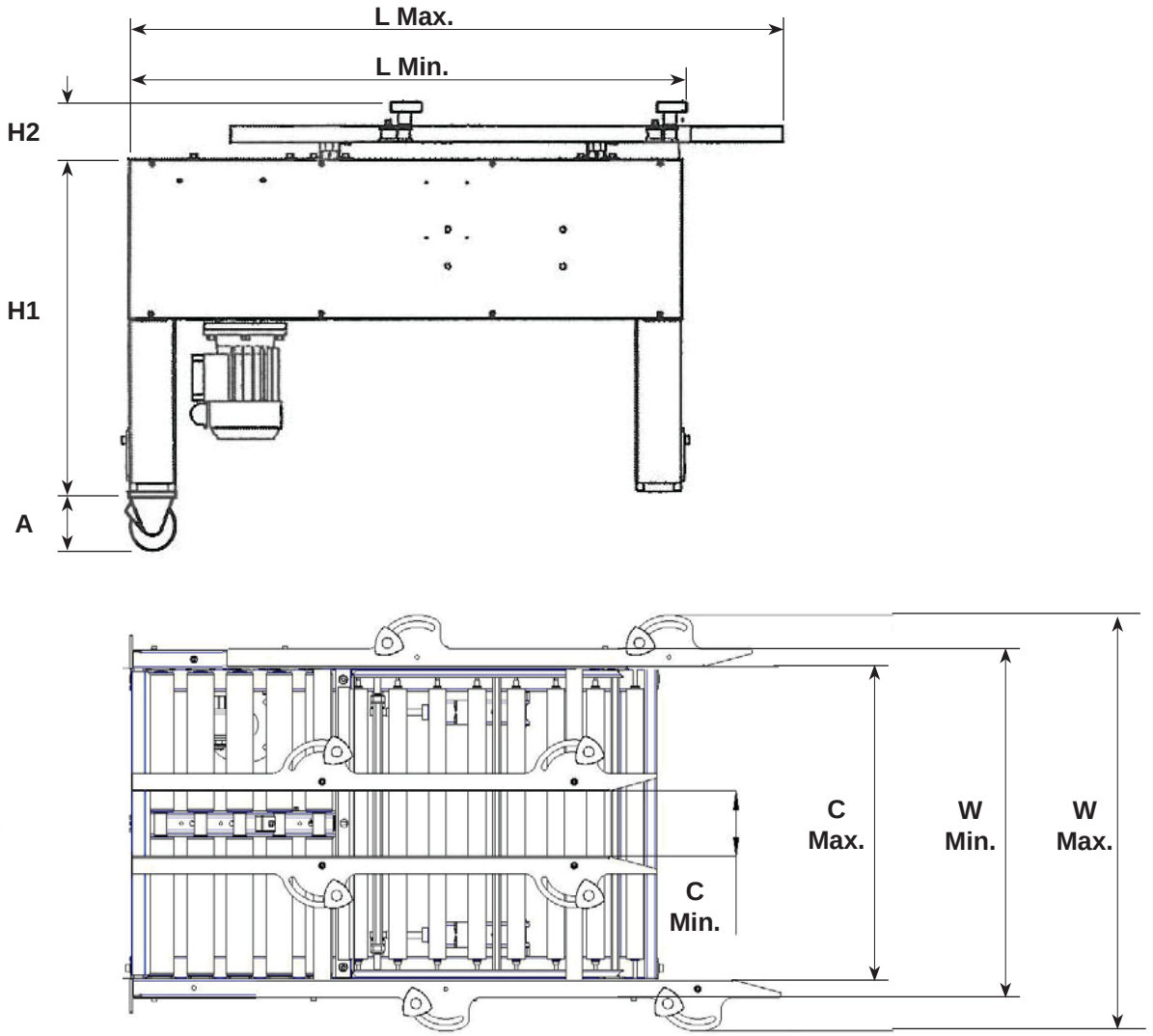
4.5 Box Weight and Size Capacities

A. Box weight, filled – weight must be sufficient to actuate center cam located between powered conveyor rollers, 2 kg [4 lbs] minimum, 29 kg [65 lbs] maximum.

B . **Box Size:**

	Minimum	**Maximum**
Length	150mm [6.0 inch]	635mm [25 inch]
Width	120mm [4.75 inch]	495mm [19.50 inch]
Height	120mm [4 .75 inch]	510mm [20 inch]

Special modifications may be available for carton sizes not listed above.
Contact your 3M Representative for information.



6. Machine Dimensions

	A	H1	H2	L	C	W
Minimum						
mm	120	610	108	952.5	118	758
[Inches]	[4.72]	[24.00]	[4.25]	[37.50]	[4.63]	[29.84]
Maximum						
mm	---	890	---	1149.4	562	631
[Inches]	---	[35.00]	---	[45.25]	[22.13]	[24.84]

* Casters are optional

Weight – Approximate 95kg [209 pounds] crated
Approximate 82kg [181 pounds] uncrated

5.1 Shipment and Handling of Packed Machine

- The machine is fixed on the pallet with four (4) bolts and can be lifted by using a fork truck.
- The package is suitable to travel by land and by air.
- Optional sea freight package is available.

Packaging Overall Dimensions (Figure 5-1)

(See Specifications).

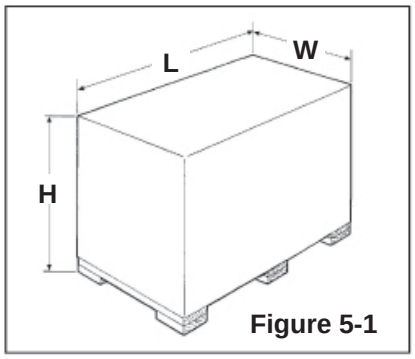


Figure 5-1

5.2 Handling and Transportation of Uncrated Machine

The uncrated machine should not be moved except for short distances and indoors ONLY. Without the supporting pallet, the machine is exposed to damage and may cause injuries. To move the machine, use belts or ropes, paying attention to place them in the points indicated using care to not interfere with the motor**.**

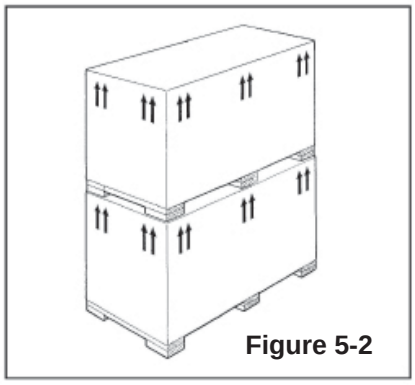


Figure 5-2

5.3 Storage of the Packed or Unpacked Machine

If the machine is not used for a long period, please take the following precautions:

- Store the machine in a dry and clean place.
- If the machine is unpacked it is necessary to protect it from dust.
- Do not stack anything over the machine.
- It is possible to stack a maximum of two (2) machines (if they are in their original packing).

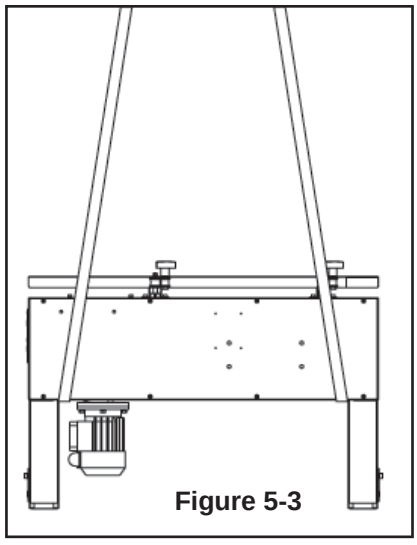


Figure 5-3

6.1 Uncrating

Cut straps. Cut out staple positions along the bottom of the shipping box or remove staples with an appropriate tool **(Figure 6-1)**

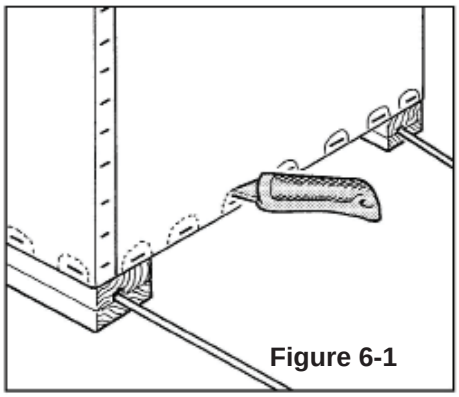


Figure 6-1

After cutting out or removing the staples, lift the shipping box in order to clear the conveyor
Note: Two (2) persons required.

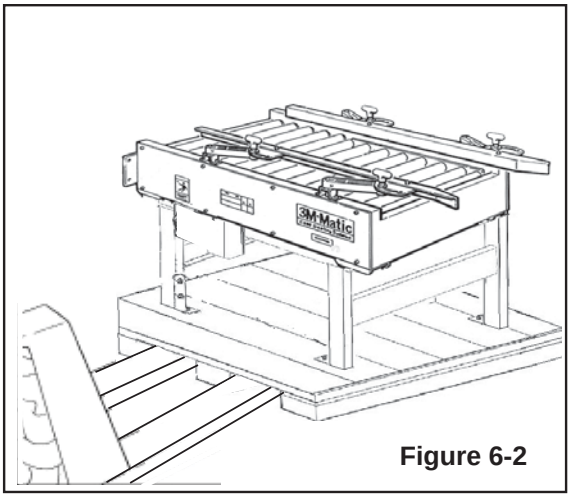


Figure 6-2

Transport the conveyor with a fork-lift truck to the operating position. Lift the pallet at the point indicated in **Figure 6-2** (weight of machine crated = See Specifications).

Removal of Pallet

Using a 10mm combination wrench, remove the fasteners that secure the Infeed Conveyor/Case Sealer legs to pallet at each leg (as shown in **Figure 6-3).**

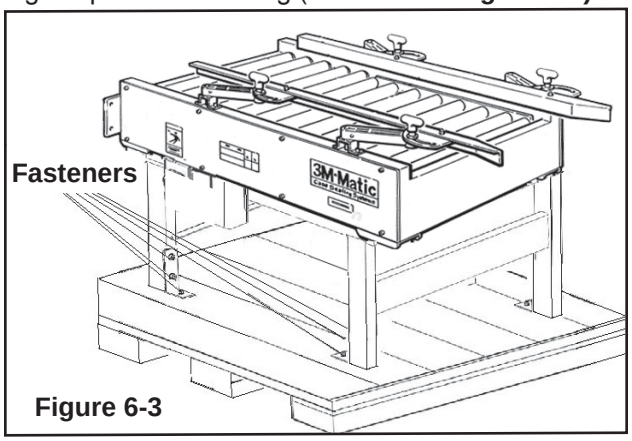


Figure 6-3

6.2 Disposal of Packaging Materials

The **a80f-if** package is composed of:

- Wooden pallet
- Cardboard shipping box
- Wooden supports
- Metal fixing brackets
- PU foam protection
- PP plastic straps
- Dehydrating salts in bag
- Special bag of laminated polyester/aluminium/ Polyethylene (sea freight package only)
- Polyethylene protective material

For the disposal of the above materials, please follow the environmental directives or the law in your country.

7.1 Operating Conditions

The machine should operate in a dry and relatively clean environment at 5° to 50°C. with clean dry boxes-relative humidity between 0% and 80%

7.2 Space Requirements for Machine Operation and Maintenance Work

Minimum distance from wall **(Figure 7-1)**:

A = 1.0m. (39.4 inches)
B = 0.7m. (27.6 inches)
Minimum height = 2.7m. (106.3 inches)

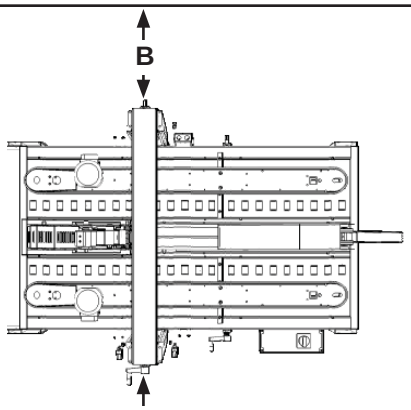


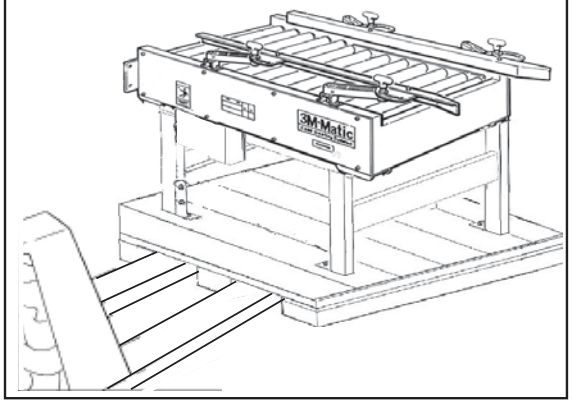
Figure 7-1

WARNING

- **To reduce the risk associated with mechanical and electrical hazards:**
- Read, understand, and follow all safety and operating instructions before operating or servicing the Infeed Conveyor/Case Sealer.

7.3 Machine Positioning / Bed Height

Figure 7-2



WARNING

- **To reduce the risk associated with muscle strain:**
- Use the appropriate rigging and material handling equipment when lifting or repositioning this equipment.
- Use proper body mechanics when removing or installing taping heads that are moderately heavy or may be considered awkward to lift.

Bed Height :

he infeed conveyor is equipped with four (4) adjustable legs that are located at the corners of the frame. The legs can be adjusted to obtain different conveyor bed heights from 585mm [23 inch] minimum to 715mm [28.1 inch] maximum. Refer to **Figure 7-3 and the Specification Section.**

1. Block up the conveyor frame to allow adequate leg adjustment.
2. Loosen, but do not remove, two M8 x 16mm socket screws in one leg. Adjust the leg length for the desired bed height. Retighten the two (2) screws to secure the leg. Adjust all four (4) legs equally.

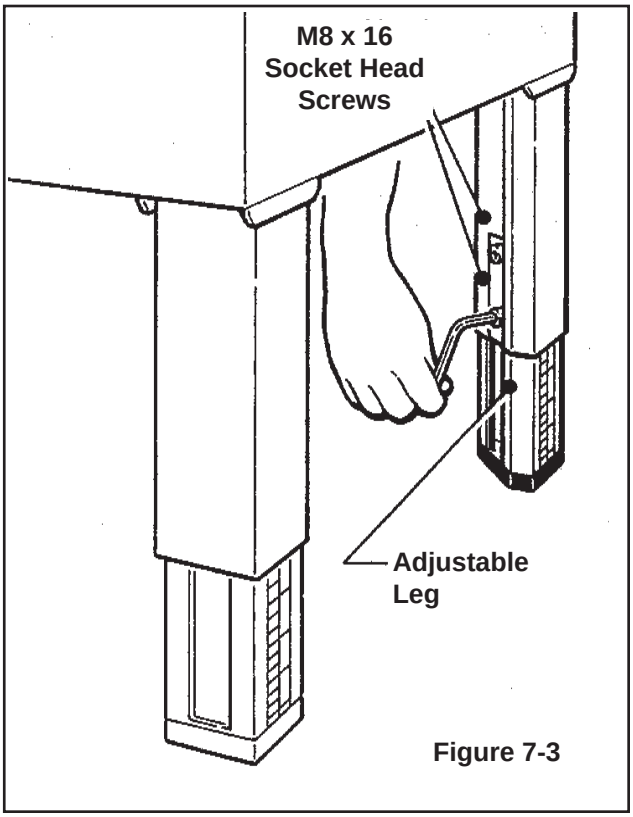


Figure 7-3

Production Line Installation

Refer to **Figure 7-4** for installation Setup. Infeed convey-or bed must be level and equal to case sealer bed height. Secure infeed conveyor mounting brackets to infeed conveyor and case sealer as shown.

7.4 Preliminary Electric Inspection

Before connecting the machine to the mains please carry out the following operations:

7.4.1 Make sure that the socket is provided with an earth protection circuit and that both the mains voltage and the frequency match the specifications on the name plate.

7.4.2 Check that the connection of the machine to the mains meets the safety regulations in your country.

7.4.3 The machine is fitted with a main switch. The user will be responsible for testing the short-circuit current in its facility and should check that the short-circuit amperage setting of the machine is compatible with all the components of the mains system.

Electrical Connection:

The electrical control box, shown in **Figure 7-5**, contains the **"On/Off"** switch with pre-set circuit breaker.

A power supply cord extends from the bottom of the electrical control box (switch). Plug this cord into the receptacle on the lower left side (infeed end) of the **a80f-if** case sealer frame as shown in **Figure 2-4.**

7.6 Pneumatic Connection

The infeed conveyor requires a 5.2 bar gauge pressure [75 PSIG], 28 litre/min @ 21°C, 1.01 bar [1.0 SCFM] compressed air supply.

Remove all packaging materials and tools from the conveyor before connecting the air line to energize the pneumatic components.

Plug the air line from the infeed conveyor into the designated port on the case sealer as shown (**Figure 7-5).**

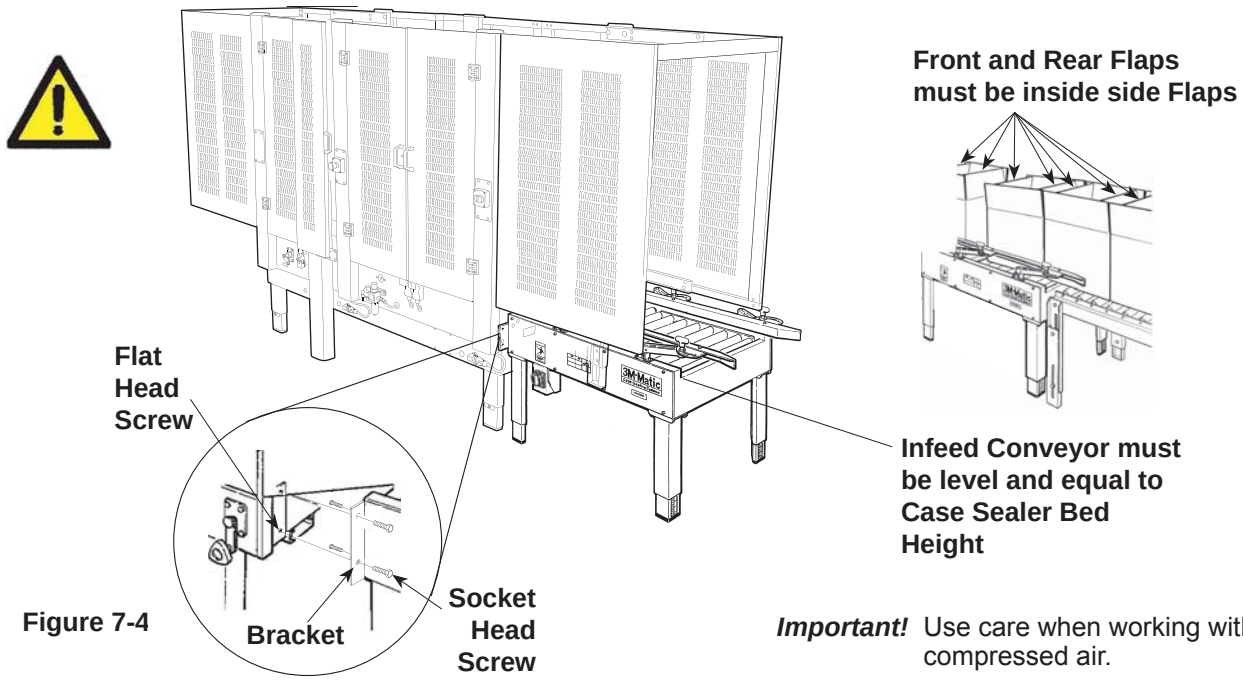

Front and Rear Flaps must be inside side Flaps
Flat Head Screw
Infeed Conveyor must be level and equal to Case Sealer Bed Height
Socket Head Screw
Bracket

Figure 7-4

Important! Use care when working with compressed air.

7.5 Machine Connection to the Mains

For technical specifications:
See Section 4 - Specifications

- Push the LATCHING EMERGENCY STOP BUTTON.
- The main switch is normally turned OFF.

Connect the power cord supplied with the machine to a wall socket using a plug which complies with the safety regulations of your country.

WARNING

- **To reduce the risk associated with mechanical and electrical hazards:**
  - Read, understand, and follow all safety and operating instructions before operating or servicing the Infeed Conveyor/Case Sealer.
- **To reduce the risk associated with hazardous voltage:**
  - Position electrical cord away from foot and vehicle traffic.

7.6 Pneumatic Connection (continued)

Important: Use care when working with compressed air.

WARNING

- **To reduce the risk associated with muscle strain:**
  - Use the appropriate rigging and material handling equipment when lifting or repositioning this equipment.
- **To reduce the risk associated with impact hazards:**
  - Always unplug electric and turn the valve "Off" when air supply line is being connected or disconnected.

7.7 Infeed Conveyor Assembly

1. Remove the conveyor and the package of parts from the carton.
2. Verify that the package contains two flat plates, four (4) M8 x 20 hex socket head screws, and four (4) M8 flat washers.
3. To assemble the infeed conveyor, refer to **Figure 7-4** and locate the bolt holes on the infeed end of the Infeed Conveyor frame.
4. Insert a screw in each hole and attach conveyor to frame so that only a few threads take hold.

Note: Be sure to line up and level the Machine and Infeed Conveyor Rollers. Adjustments can be made to the position of the infeed conveyor before tightening screws.

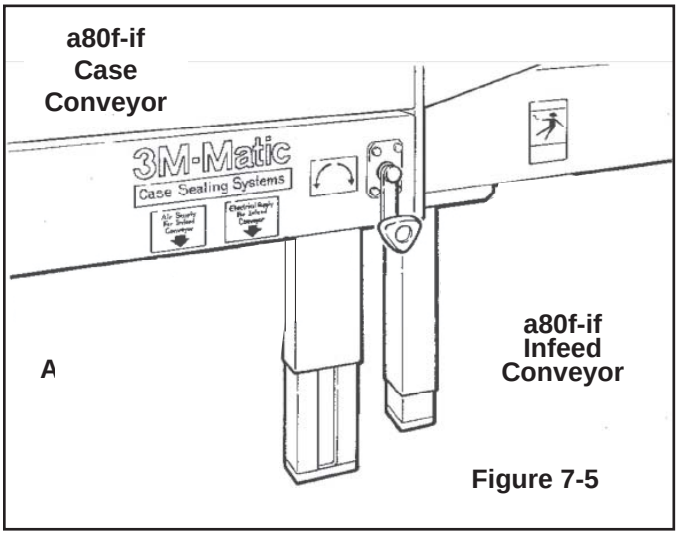


Figure 7-5

5. Ensure that infeed conveyor rollers are level with machine infeed rollers. Adjust position of the bed height and infeed conveyor before tightening all screws. When adjusting Infeed Conveyor Legs, block up the machine frame to allow adequate leg adjustment This will help to prevent damage to the boxes and ensure proper performance.
6. Remove the Plug and insert/connect the main air supply line to the "T" connector located at the midpoint/middle at end of machine **(see Figure 7-5).**
7. Connect Electric Plug.

WARNING

- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
  - Turn electrical and air supply off and disconnect before performing any adjustments, maintenance or servicing the machine.

Production Line Placement of Infeed Conveyor:

1. Install Infeed Conveyor in production line. When installing the Infeed Conveyor, be sure to observe the following guidelines.
   a. Infeed Conveyor must be installed level – it is not designed to convey boxes uphill.
   b. Production Line must convey boxes to Infeed Conveyor at the target speed indicated in Specifications **(Section 4) and can be set as shown in Figure 7-6.**
   c. Precautions must be taken to prevent excessive box pressure against the Infeed Conveyor infeed gate. This will help to prevent damage to the boxes and ensure proper performance.
   d. Infeed and exit conveyors must provide straight entrance and exit of boxes to/from Infeed Conveyor and exit conveyor must positively convey boxes away from machine

Note: The air valve has provisions for lock out/ tag out according to plant regulations.

Box Release Timer:

The Box Release Timer, shown in **Figure 7-6**, is located below the conveyor bed at the infeed end of the conveyor. The timer controls the box stop gate that releases the boxes to the **a80f-if** case sealer.

The timer is adjustable for box lengths from 15mm [6 inch] to 635mm [25 inch]. The timer must be reset for each change in box length being conveyed through the **a80if** case sealer.

For compressed air supply Technical Specifications,

Note: A precision regulator is used to balance the top drive assembly. Due to the self-relieving feature of this regulator, a small amount of air continually vents to the atmosphere. This is normal and amounts to approximately 3 litre/min. [0.1 SCFM].

WARNING

- **To reduce the risk associated with entanglement and electric hazards:**
  - Keep hands and loose clothing away from moving rollers
  - Remove tools and/or other loose objects before starting conveyor
  - Turn off and disconnect electrical and air supply power before performing any maintenance or service work on the infeed conveyor
- **To reduce the risk associated with impact hazards:**
  - Always turn the valve "Off" when air supply line is being connected or disconnected.

Pneumatic Components Function

The air supply operates the adjustable pneumatic timer and powers movement of two air cylinders that raise the non-powered box rollers to release one box for the tape sealing application. The box cam activates the same two air cylinders that lower the box rollers and the stop gate retains the next box from moving forward.

Electrical Components Function

A motor, reducer and drive chain turn the powered box rollers that convey the box forward for the tape sealing application.

Operating Sequence

1. The operator places one product filled box (front and rear flaps folded in) onto the infeed conveyor non-powered box rollers (in the up position) and moves it forward to the stop gate as shown in **Figure 7-7.**

Figure 7-6 – Box Release Timer

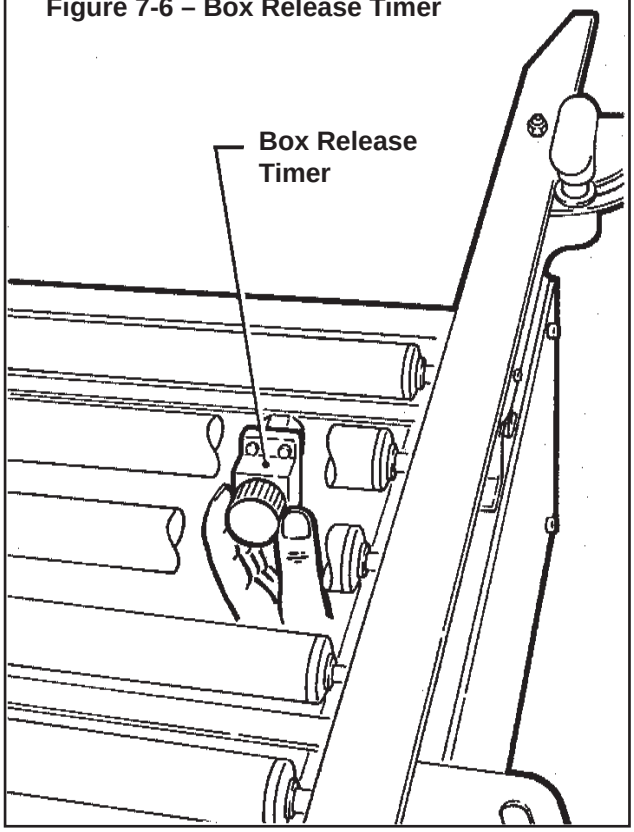
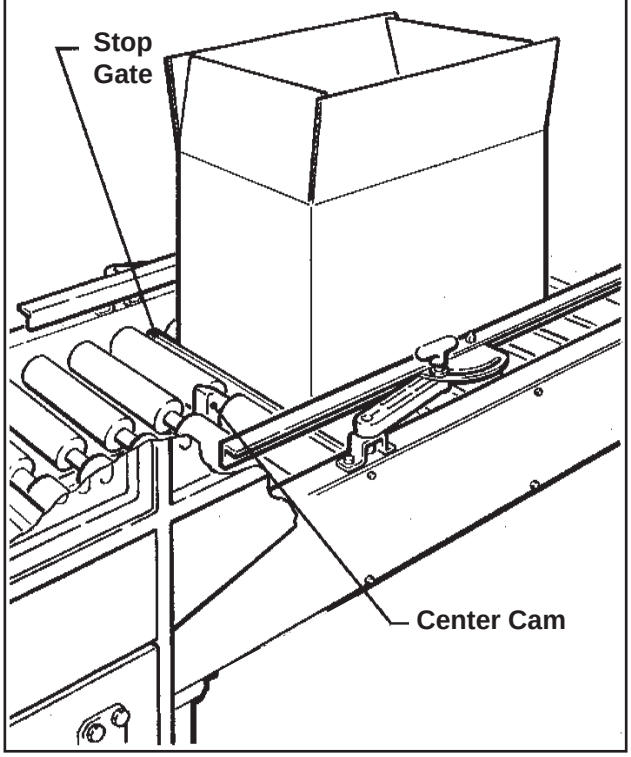


Figure 7-7 – Box Setup



2. The operator moves the side guides in against the box to center it on the conveyor rollers and tightens the four hand knobs to secure the side guides. **See Figure 7-8.** Box must be aligned with guides to match **a80f-if** side drive belts.

   Additional boxes, ready for the tape sealing application, are moved in to flood the conveyor behind the lead box.

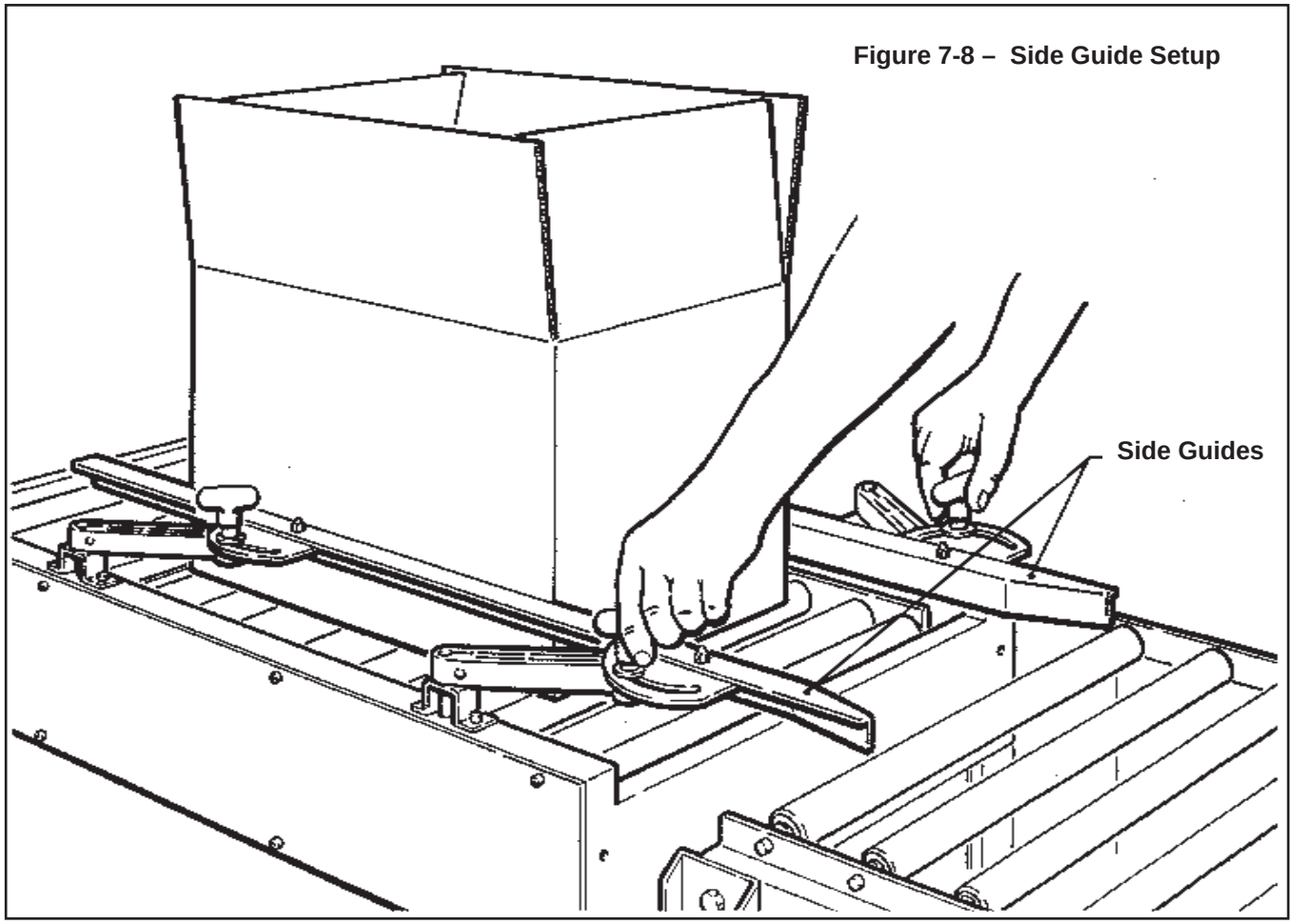
3. The operator rotates the electrical switch to "On" to start the powered box rollers.

4. The operator moves the lead box forward onto the powered box rollers. The box moves over the center cam that activates the timer causing the non-powered rollers to pivot down so the stop gate retains the following box.

5. The lead box moves through the case sealer taping application. The timer on the infeed conveyor has been set to raise the non-powered rollers releasing the next box.

Note – Roller drive motor is designed to run at a moderate temperature of 40° C [104° F]. In some cases, it may feel warm to the touch.

Figure 7-8 – Side Guide Setup



8.1 Safety Measures (See section 3)

Carrying out maintenance and repairs may imply the necessity to work in dangerous situations.

8.2 Tools and Spare Parts Supplied with the Machine

See Spare Parts Order Section.

WARNING

- **To reduce the risk associated with mechanical and electrical hazards:**
  - Read, understand, and follow all safety and operating instructions before operating or servicing the Infeed Conveyor.
  - Allow only properly trained and qualified personnel to operate and service this equipment.
- **To reduce the risk associated with pinches, entanglement and hazardous voltage:**
  - Turn electrical and air supply off and disconnect before performing any adjustments, maintenance or servicing the machine or taping heads.

8.3 Recommended Frequency of Inspection and Maintenance Operations

Operation	Frequency	Qualification
Inspection safety features	daily	1
Cleaning of machine	weekly	1
Lubrication	monthly	2
Drive belt replacement	when worn	2

8.4 Inspections to be Performed Before and After Every Maintenance Operation

Before every maintenance operation turn the rotary switch to OFF on the main power and disconnect the plug from the control panel. During the maintenance operation only the operator responsible for this duty must work on the machine. At the end of every maintenance operation check the safety devices.

8.5 Check Efficiency of Safety Features

1. Turn rotary switch STOP/OFF on main power
2. Drive Belt safety guards

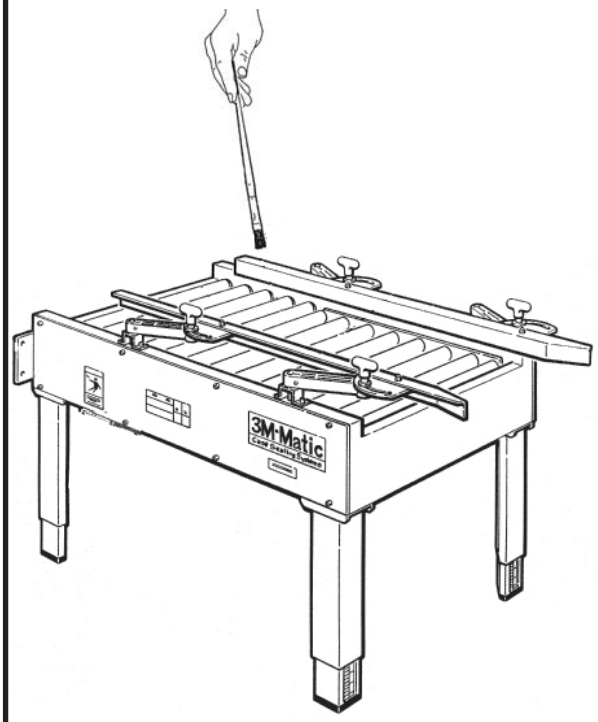
(***Note:*** E-Stop located on Main Machine or Production Line)

8.6 Cleaning of Machine

Qualification / Skill 1

Regular slotted containers produce a great deal of dust and paper chips when processed or handled in equipment. If this dust is allowed to build up on machine components, it can cause component wear. The dust buildup can best be removed from the machine by a shop vacuum. Depending on the number and type of boxes used in the infeed conveyor, this cleaning should be done approximately once per month. If the boxes are dirty, or if the environment in which the machine operates is dusty, cleaning on a more frequent basis may be necessary. Excessive dirt buildup that cannot be removed by vacuuming should be wiped off with a damp cloth.

Figure 8-1



8.7 Lubrication

Qualification / Skill 2

Most of the machine bearings, including the drive motor, are permanently lubricated and sealed and do not require additional lubricant. tape. Lubricate the felt pad on the blade guard without saturating it.

Important: Never attempt to remove dirt from machine by blowing it off with compressed air. This can cause dirt to be blown into critical machine components and cause premature wear. Never wash down or subject machine to conditions causing moisture condensation as serious equipment damage could result.

Note: Wipe off excess oil and grease. It will attract dust which can cause premature equipment wear and jamming. Take care that oil and grease are not left on the surface of rollers around which tape is threaded, as it can contaminate the tape's adhesive.

8.8 Lubrication Products

Synthetic Silicone Spray may be used on Guide Pivot Points **(Figure 8-1).**

8.9 List of the Maintenance Operations

Date:	Description of Operation

9.1 Information for Disposal of Machine

The machine is composed of the following materials:

- Steel
- Nylon

For machine disposal, follow the regulations published in each country.

9.2 Emergency Procedures

In case of danger/fire:
Disconnect plug of power cable from power supply. **(Figure 9-1)**

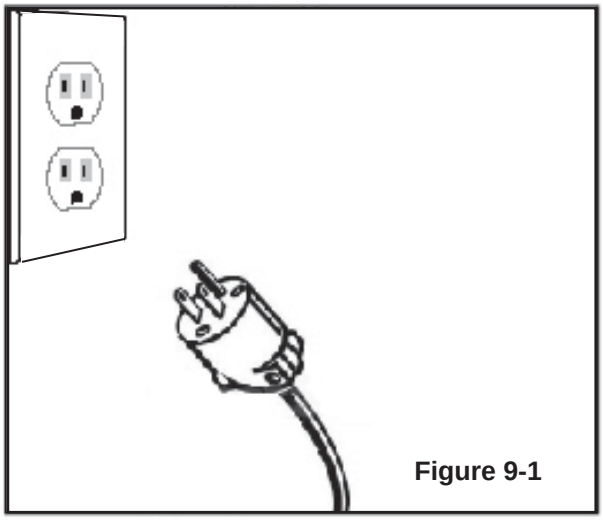


Figure 9-1

IN CASE OF FIRE

Use a fire extinguisher that is rated for electrical fires **(Figure 9-2).**

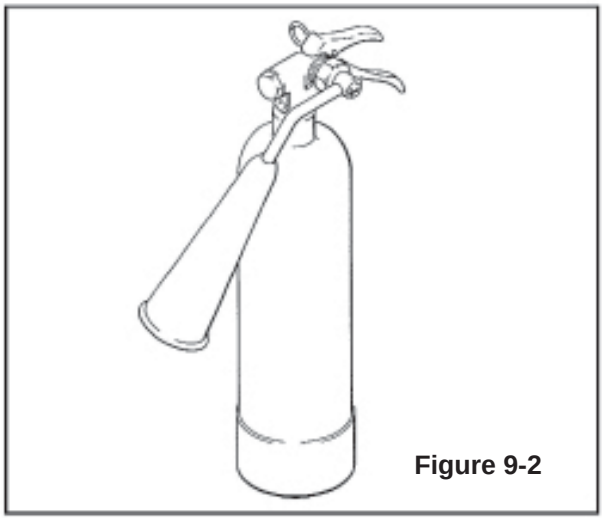


Figure 9-2

10.1 Statement of Conformity

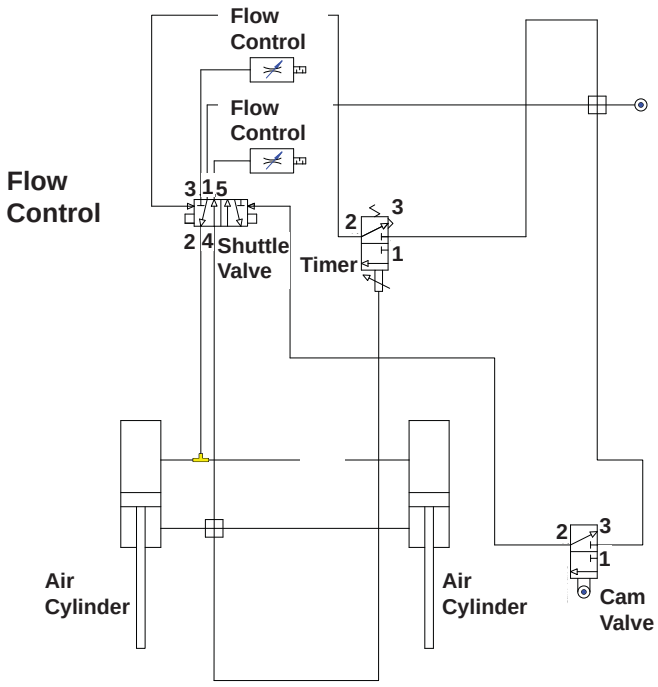
Not Applicable.

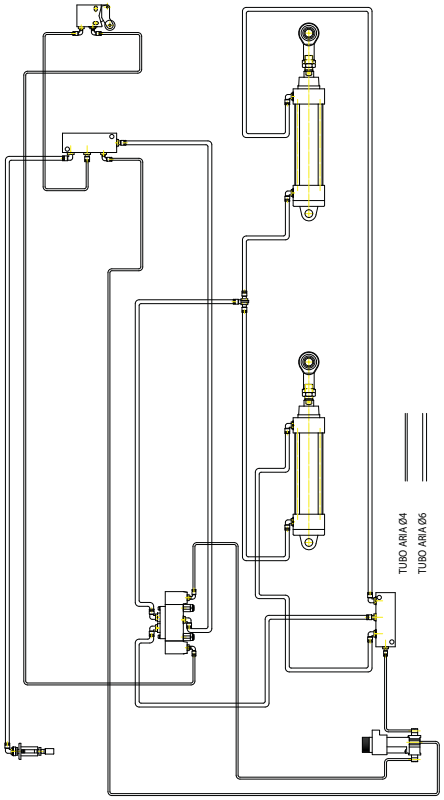
10.2 Emission of Hazardous Substances

Nothing to report

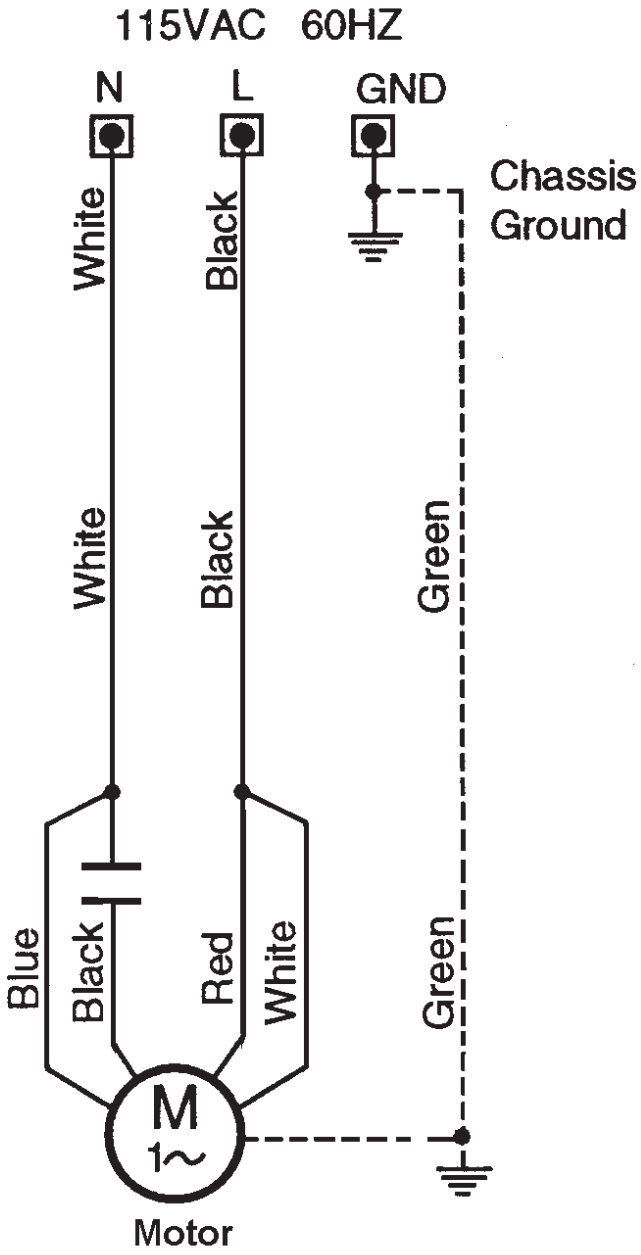
11.1 Pneumatic Diagrams

Air Cylinder





11.2 Electric Diagram



11.3 Spare Parts Order

Replacement Parts Ordering Information and Service

Refer to the first page of this instruction manual "Replacement Parts and Service Information".

Order parts by quoting the following information:
(Refer to the Identification Plate on the Machine)

- MACHINE MODEL
- SERIAL NUMBER
- FIGURE NO.
- POSITION
- 3M PART NO. (11 DIGITS)
- DESCRIPTION
- QUANTITY

Important:
The machine is constantly revised and improved by our designers. The spare parts catalogue is also periodically updated. It is very important that all the orders of spare parts make reference to the serial number of the machine (located on the identification plate on the machine).

The manufacturer reserves the right to modify the machine at any time without notice.

Tool Kit

A tool kit, part number 78-8060-8476-6, is available as a stock item. The kit contains the necessary open-end and hex socket wrenches for use with the metric fasteners on the Infeed Conveyor. The threading tool, part number 78-8076-4726-4, contained in above kit is also available as a replacement stock item.

Label Kit

In the event that any labels are damaged or destroyed, they must be replaced to ensure operator safety.
See **Section 3 - Safety**.

To Order Parts:

1. Refer to first illustration, **Frame Assemblies,** for the **Figure Number** that identifies a specific portion of the machine.

2. Refer to the appropriate **Figure or Figures** to determine the parts required and the parts reference number.

3. The Parts List that follows each illustration, includes the **Reference Number, Part Number** and **Part Description** for the parts on that illustration.

   Note **–** The complete description has been included for standard fasteners and some commercially available components. This has been done to allow obtaining these standard parts locally, if desired.

4. Order parts by Part Number, Part Description and Quantity required. Also include the model/machine name, machine type, and serial number that are located on the identification plate.

5. Refer to the first page of this instruction manual **"Replacement Parts and Service Information"** for replacement parts ordering information.

Important **–** Not all the parts listed are normally stocked items. Some parts or assemblies shown are available only on special order. Contact 3M/Tape Dispenser Parts to confirm item availability.

Options and Accessories

For additional information on the options and accessories listed below, contact your 3M Representative.

Part Number	Option/Accessory
N/A	N/A

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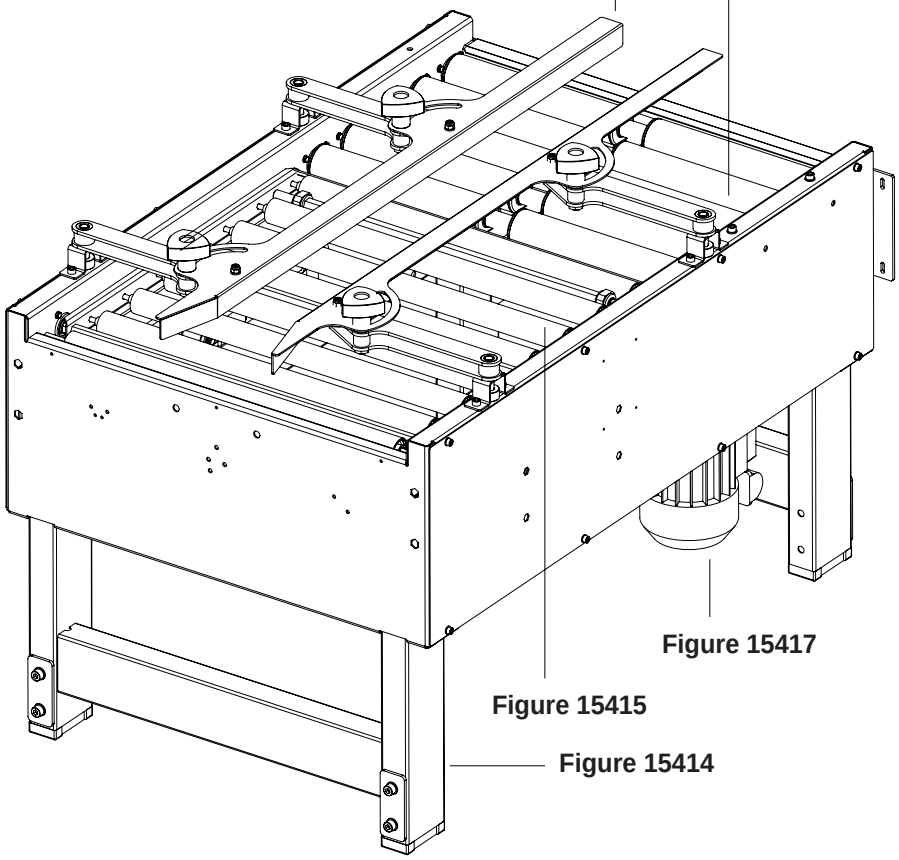

Frame Assemblies

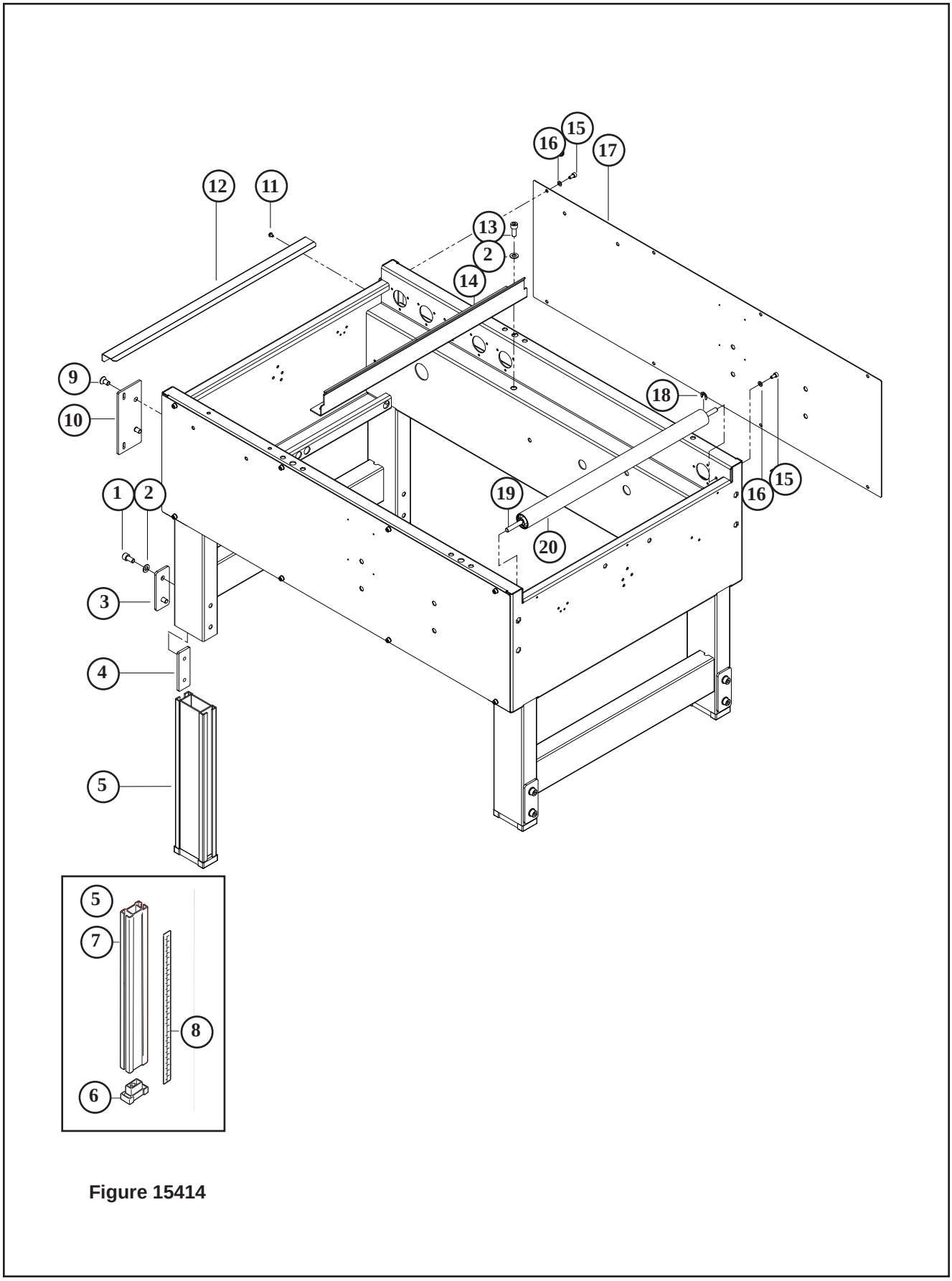

Figure 15414

Figure 15414

Ref. No.	3M Part No.	Description
15414 - 1	26-1003-7963-0	Screw - Soc. Hd. M8X16
15414 - 2	78-8017-9318-9	Washer - Plain-Metric 8mm
15414 - 3	78-8129-6100-7	Bracket
15414 - 4	78-8137-0635-1	Clamp - Leg
15414 - 5	78-8137-0619-5	Leg
15414 - 6	78-8137-0641-9	Pad - Foot
15414 - 7	78-8137-0640-1	Leg - Inner
15414 - 8	78-8137-4053-3	Label - Leg
15414 - 9	78-8057-5716-4	Screw, Flat Hd. Soc, M8X15
15414 - 10	78-8137-5992-1	Plate
15414 - 11	26-1002-5753-9	Screw-Self Tapping, 7SPX8
15414 - 12	78-8137-5993-9	Safety - Panel
15414 - 13	26-1003-7964-8	Screw Soc. Hd. Hex Soc. Dr., M8X20
15414 - 14	78-8137-5994-7	Box Stop
15414 - 15	26-1003-7948-1	Screw, Soc.Hd Hex Soc. M5X10
15414 - 16	78-8005-5741-1	Washer - Flat, M5
15414 - 17	78-8137-5991-3	Cover
15414 - 18	78-8052-6732-1	Ring, Special M8
15414 - 19	78-8137-5990-5	Shaft
15414 - 20	78-8137-5989-7	Roller with Caps

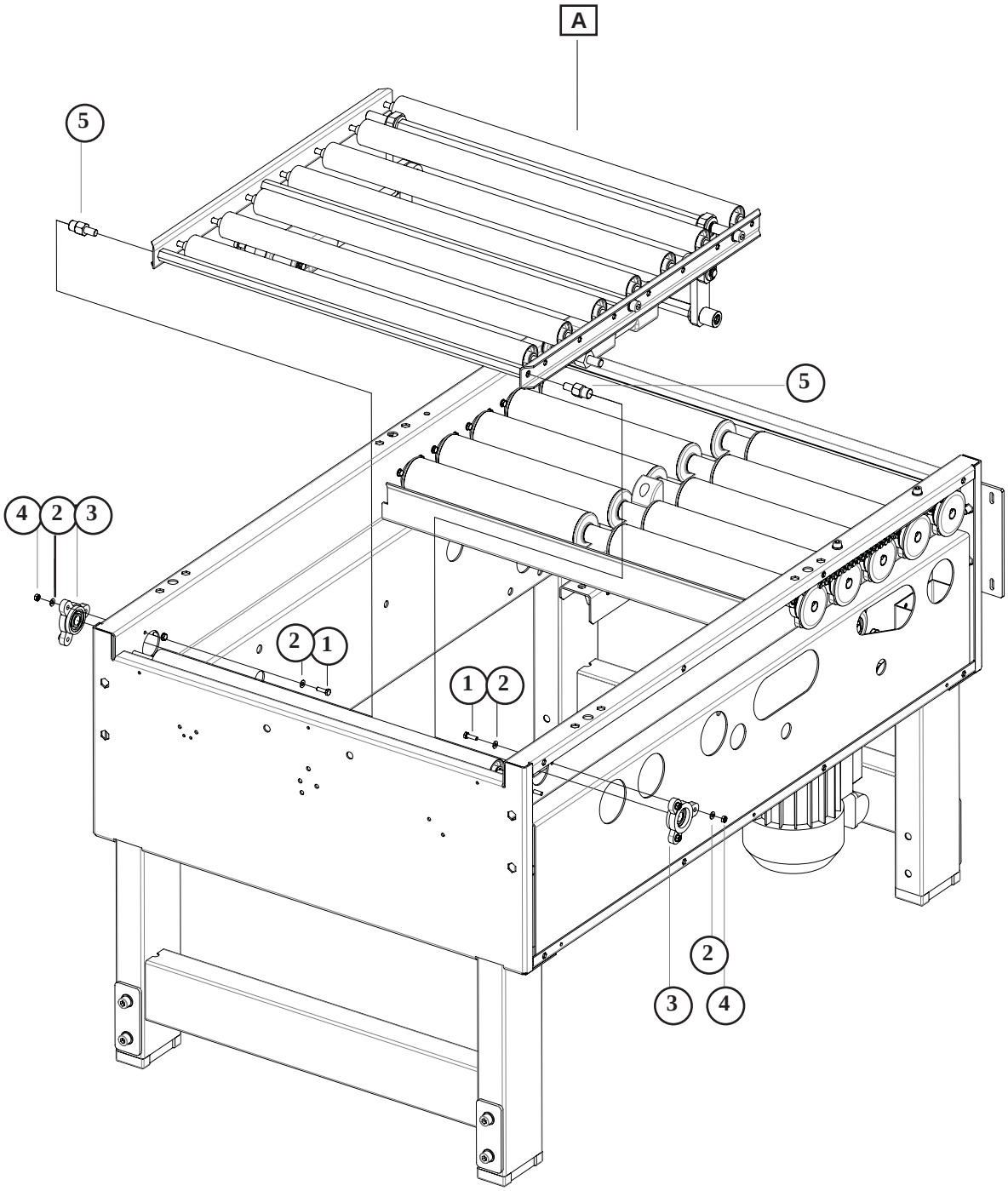

Figure 15415 / 1

Figure 15415 / 1

Ref. No.	3M Part No.	Description
15415 - 1	83-0002-7336-3	Screw- Hex Hd M4X14 Zinc. Pl
15415 - 2	78-8005-5740-3	Washer Plain-Metric 4mm Nick.
15415 - 3	78-8059-5584-2	Hub Assy w/Bearing 6001-2RS
15415 - 4	78-8010-7416-8	Nut-Metric, Hex, Steel M4
15415 - 5	78-8059-5585-9	Shaft Gate Assy

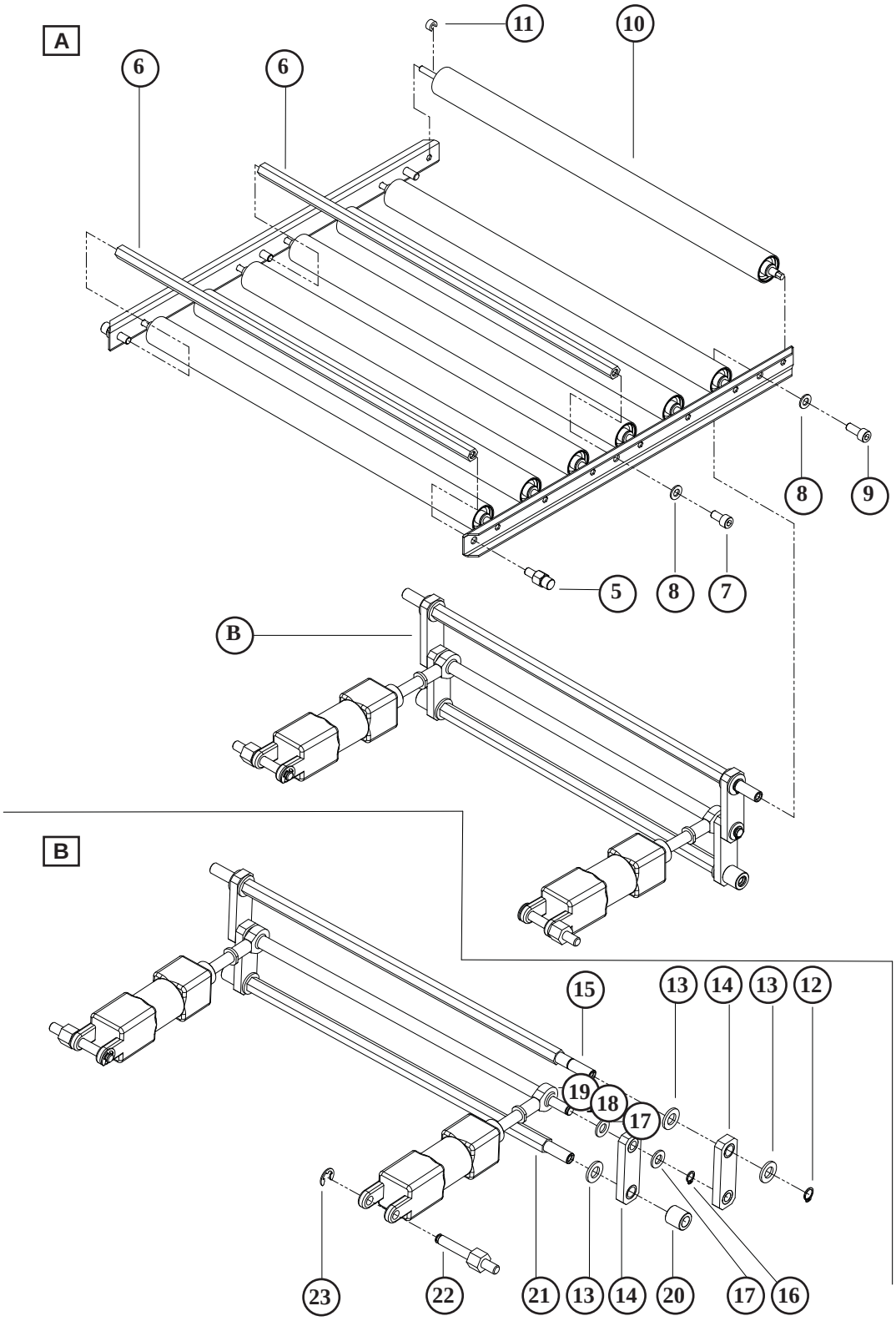

Figure 15415 / 2

Figure 15415 / 2

Ref. No.	3M Part No.	Description
15415 - 6	78-8137-6032-5	Spacer
15415 - 7	26-1003-7963-0	Screw - Soc. Hd. M8X16
15415 - 8	78-8017-9318-9	Washer - Plain - Metric 8mm
15415 - 9	26-1003-7964-8	Screw Soc. Hd. Hex Soc. Dr., M8X20
15415 - 10	78-8137-6019-2	Roller Assy.
15415 - 11	78-8052-6668-7	Snap - Roller
15415 - 12	78-8023-2234-3	Ring - Snap for 12mm Shaft
15415 - 13	78-8017-9059-9	Washer - Flat for M12 Screw
15415 - 14	78-8059-5587-5	Link
15415 - 15	78-8137-6020-0	Shaft
15415 - 16	78-8016-5855-6	E - Ring 10mm
15415 - 17	26-1004-5510-9	Washer - Plain, M10
15415 - 18	78-8137-6021-8	Shaft
15415 - 19	78-8057-5748-7	Mount, Cylinder Rod End
15415 - 20	78-8059-5588-3	Spacer
15415 - 21	78-8137-6022-6	Shaft
15415 - 22	78-8059-5589-1	Post-Air Cylinder
15415 - 23	26-1000-1613-3	Ring - Retaining 10 DIN 6799

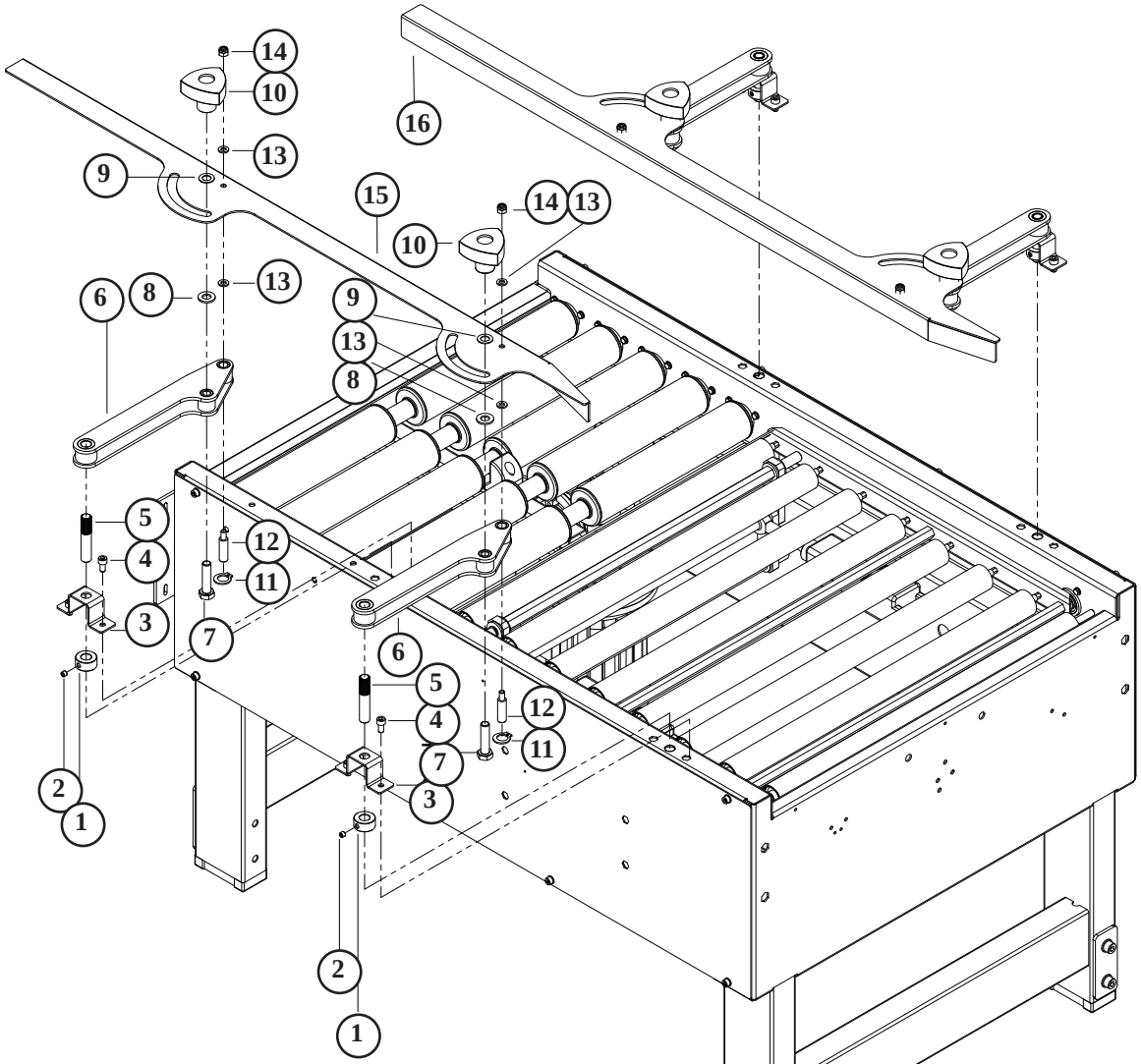

Figure 15416

Figure 15416

Ref. No.	3M Part No.	Description
15416 - 1	78-8059-5582-6	Collar
15416 - 2	78-8055-0789-0	Screw Set M6X6
15416 - 3	78-8059-5580-0	Bracket - Lever
15416 - 4	78-8010-7209-7	Screw, Soc. Hd. M6X12
15416 - 5	78-8059-5559-4	Shaft Lever Assy
15416 - 6	78-8137-6023-4	Indexing Unit Guide Lever
15416 - 7	26-1003-5852-7	Screw - Hex Hd. M10X40
15416 - 8	26-1004-5510-9	Washer - Plain, M10
15416 - 9	78-8017-9074-8	Washer - Nylon 15mm
15416 - 10	78-8070-1549-6	Knob VTR-B-M10
15416 - 11	78-8052-6733-9	Ring, Special M10
15416 - 12	78-8052-6683-6	Stud - Guide
15416 - 13	26-1000-0010-3	Washer - Flat M6
15416 - 14	26-1003-6916-9	Nut Locking Plastic Insert M6
15416 - 15	78-8059-5558-6	Guide - L/H
15416 - 16	78-8059-5556-0	Guide - R/H

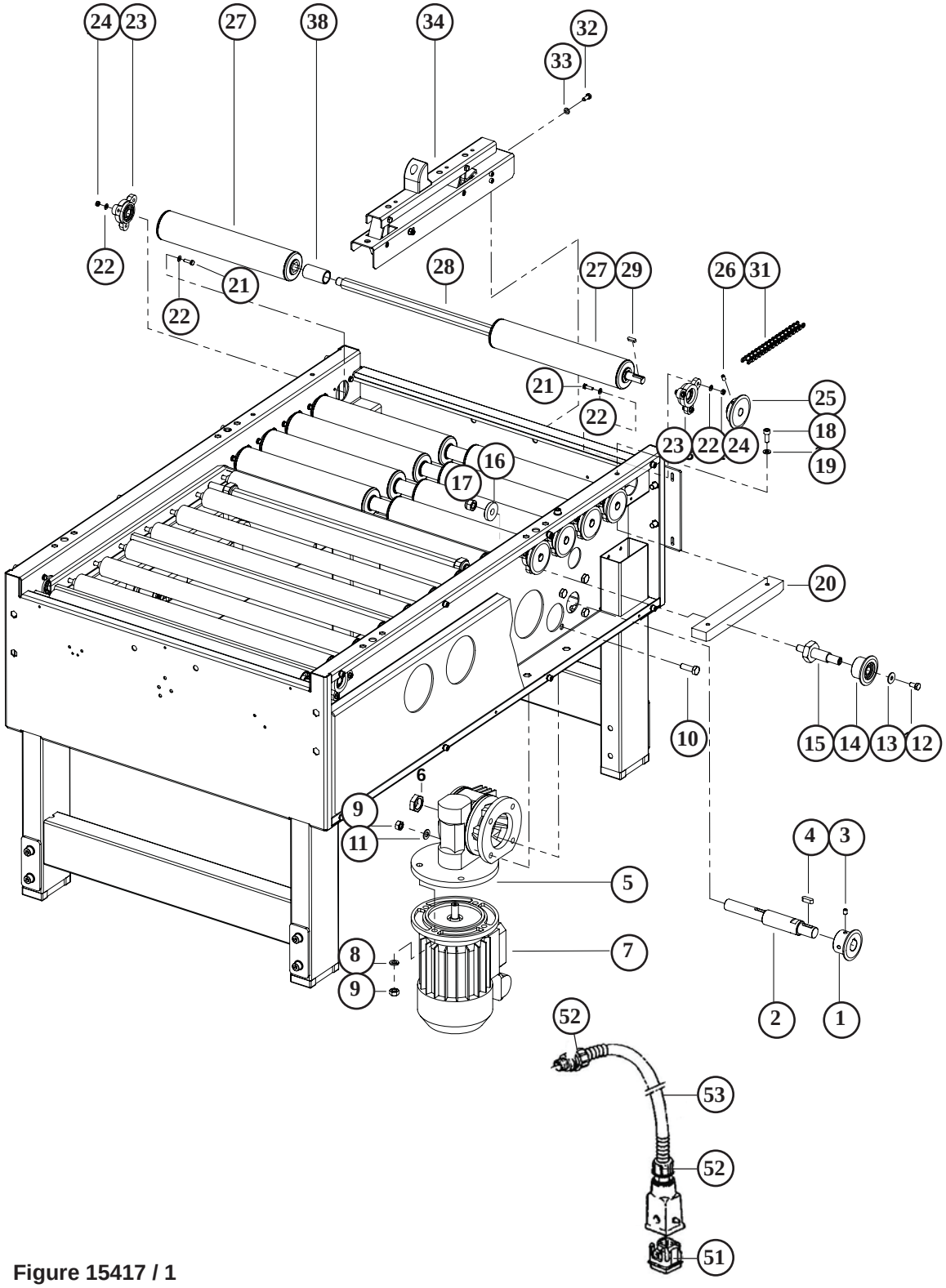

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Figure 15417

Ref. No.	3M Part No.	Description
15417 - 1	78-8076-5366-8	Sprocket - Z=16, 3/8"
15417 - 2	78-8059-5627-9	Shaft Gear Box
15417 - 3	78-8059-5617-0	Set Screw M6X8
15417 - 4	78-8057-5811-3	Key, 6X6X20mm
15417 - 5	78-8059-5620-4	Gear Box
15417 - 6	78-8017-9169-6	Nut - M18X1
15417 - 7	78-8046-8267-8	Motor - 110/110V, 50/60HZ7A1S3
	78-8052-6718-0	Motor - 220/415V, 50HZ, 3-Phase
15417 - 8	78-8005-5736-1	Lock Washer for M8 Screw
15417 - 9	2610036904-5	Nut - Hex, M8
15417 - 10	78-8017-9301-5	Screw - Hex Head M8X25
15417 - 11	78-8017-9318-9	Washer - Plain - Metric 8mm
15417 - 12	78-8010-7169-3	Screw - Metric, M6X12, Hex Hd.
15417 - 13	78-8042-2919-9	Washer - Triple, M6
15417 - 14	78-8076-5368-4	Sprocket - Z=15, 3/8"
15417 - 15	78-8076-5367-6	Shaft - Chain Tension
15417 - 16	78-8059-5623-8	Washer
15417 - 17	26-1003-6918-5	Nut, Plastic Insert M10 Hex
15417 - 18	26-1003-7957-2	Screw Soc. Hd. Hex Hd. M6X16
15417 - 19	26-1000-0010-3	Washer - Flat M6
15417 - 20	78-8059-5615-4	Chain Rail
15417 - 21	83-0002-7336-3	Screw - Hex Hd M4X14 Zinc. Pl
15417 - 22	78-8005-5740-3	Washer Plain-Metric 4mm Nick.
15417 - 23	78-8059-5584-2	Hub Assy w/Bearing 6001-2RS
15417 - 24	78-8060-7742-2	Screw, Soc. Hd. Hex. Soc. M6X70
15417 - 25	78-8076-5370-0	Sprocket - Z=17, 3/8"
15417 - 26	78-8076-5323-9	Set Screw - M5X12
15417 - 27	78-8137-6024-2	Roller Assy.
15417 - 28	78-8137-6025-9	Indexing Unit Shaft
15417 - 29	78-8059-5611-3	Key, 4X4X15mm
15417 - 30	78-8059-5610-5	Spacer - Roller
15417 - 31	78-8137-6026-7	Chain
15417 - 32	26-1003-5820-4	Screw - Hex Hd.M5X12
15417 - 33	78-8005-5741-1	Washer - Flat, M5
15417 - 34	78-8114-4667-9	Valves Driving Assy
15417 - 35	78-8010-7163-6	Screw - Metric, M5X10, Hex. Hd.
15417 - 36	78-8059-5605-5	Rail - Cam
15417 - 37	78-8055-0746-0	Front Actuator Link 12AF Black
15417 - 38	78-8054-8858-8	Spacer- 8X26, 5mm
15417 - 39	78-8054-8857-0	Shaft - 8X43mm
15417 - 40	78-8076-4774-4	Spring
15417 - 41	26-1002-4955-1	Screw - Self Tap 8PX13
15417 - 42	78-8054-8757-2	Pin - Spring Holder
15417 - 43	26-1005-6859-6	Nut Self Locking M-5
15417 - 44	78-8055-0747-8	Link-Rear Actuator 12AF Black
15417 - 45	26-1003-7947-3	Screw Soc. Hd. Hex Soc. M4X35

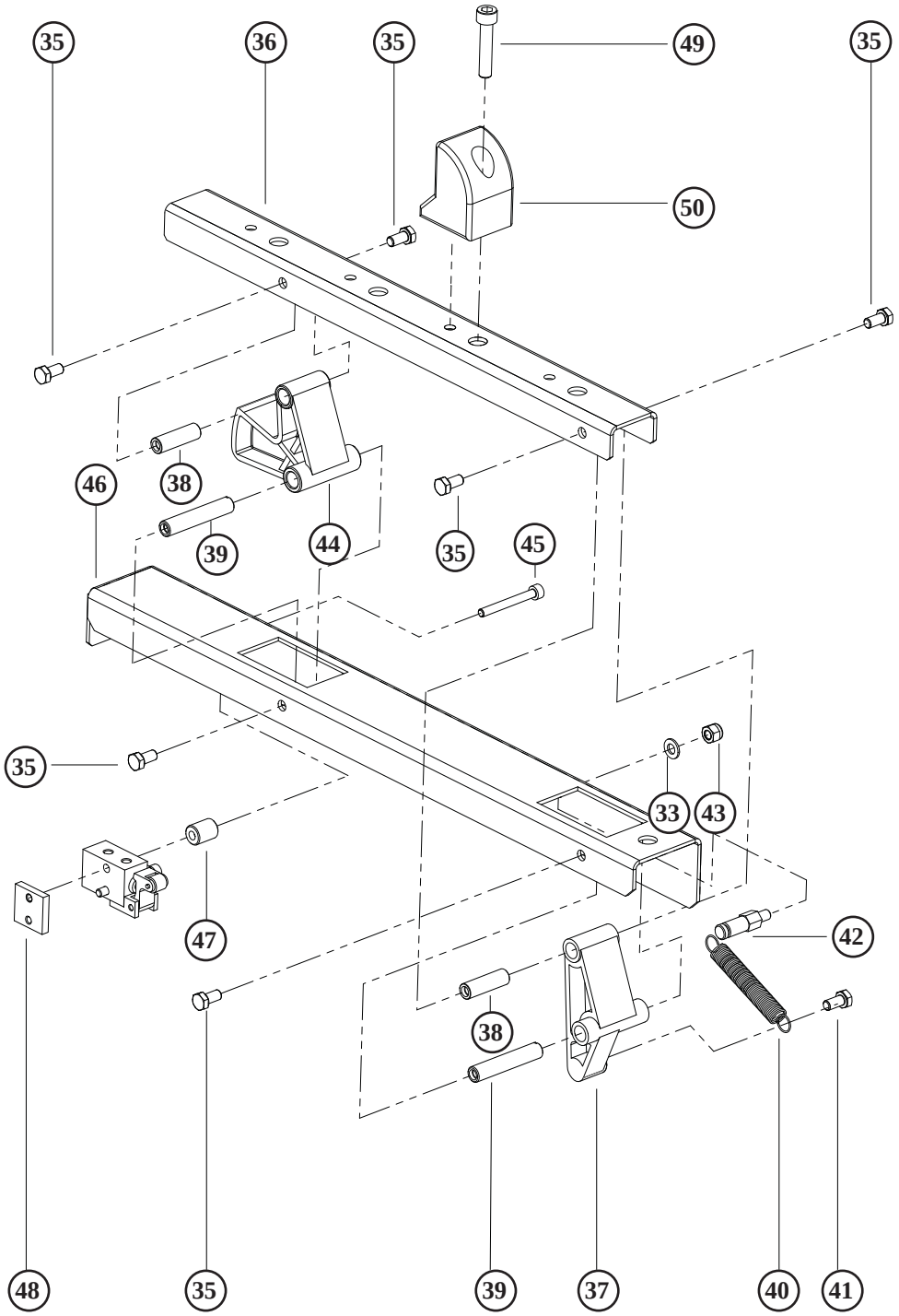

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Figure 15417

Ref. No.	3M Part No.	Description
15417 - 46	78-8059-5606-3	Support - Valve
15417 - 47	78-8054-8758-0	Spacer- Valve Holder
15417 - 48	78-8059-5607-1	Plate - Threaded
15417 - 49	26-1003-7960-6	Screw, Soc. Hd M6X30
15417 - 50	78-8059-5603-0	Cam
15417 - 51	78-8060-7875-0	Plug Male
15417 - 52	78-8076-4532-6	Cord Grip
15417 - 53	78-8137-5956-6	Cable

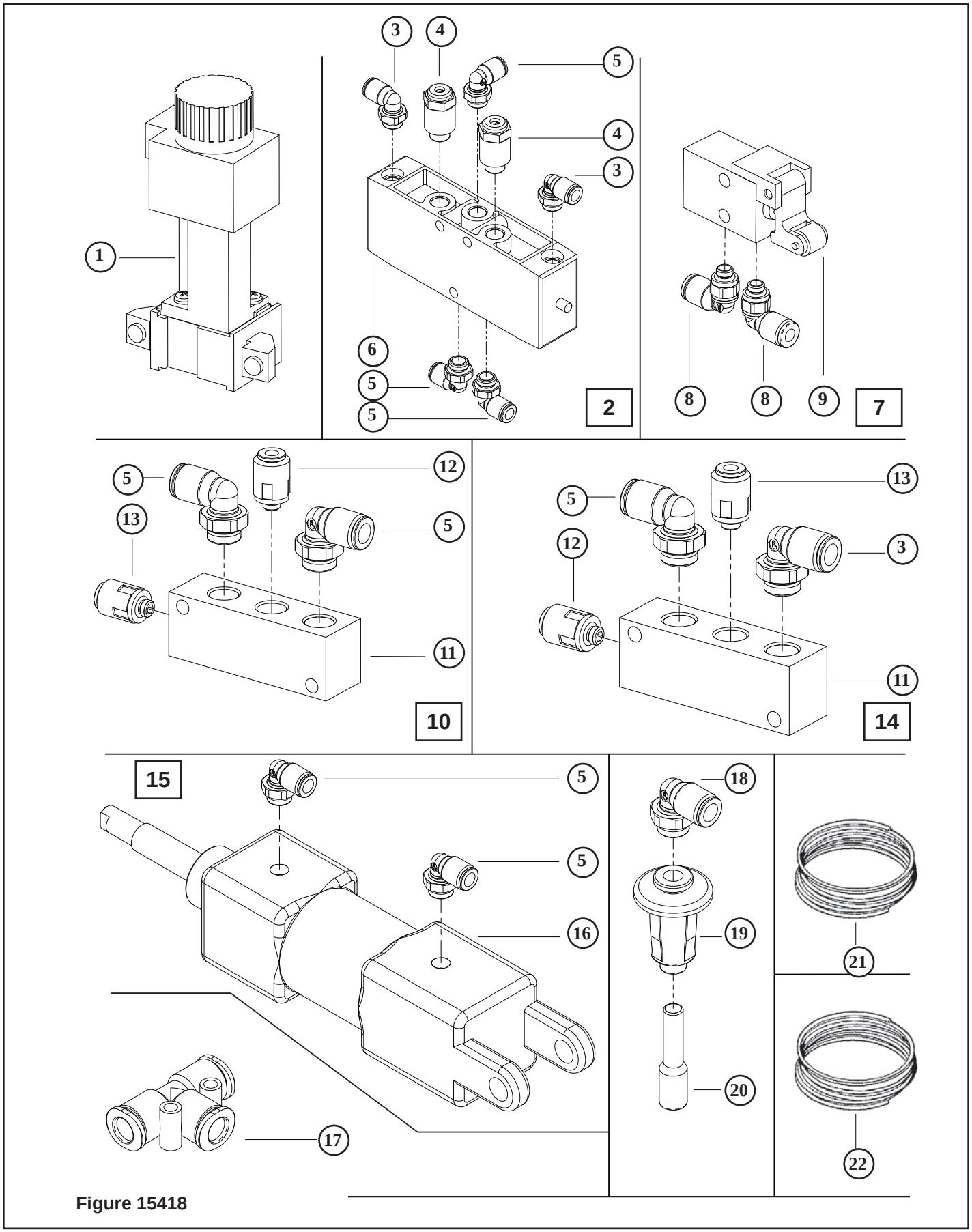

Figure 15418

Figure 15418

Ref. No.	3M Part No.	Description
15418 - 1	78-8114-4668-7	Timer - PRT-E-10
15418 - 2	78-8137-6027-5	Air Valve Assy.
15418 - 3	26-1005-5909-0	Elbow
15418 - 4	78-8059-5631-1	Flow Control
15418 - 5	26-1005-6893-5	90 Degree Elbow
15418 - 6	78-8059-5630-3	Air Valve
15418 - 7	78-8137-6028-3	Valve w/Push
15418 - 8	78-8057-5732-1	Fitting - Elbow
15418 - 9	26-1005-6358-9	3 Way - 2 Position Valve
15418 - 10	78-8137-6029-1	Air Distributor Assy.
15418 - 11	78-8059-5633-7	Air Distributor
15418 - 12	26-1005-6910-7	Union - Straight
15418 - 13	78-8060-7853-7	Union - Straight
15418 - 14	78-8137-6030-9	Air Distributor Assy.
15418 - 15	78-8137-6031-7	Air Cylinder Assy.
15418 - 16	78-8059-5590-9	Air Cylinder 32X36
15418 - 17	78-8057-6170-3	Tee - 6mm Tubing
15418 - 18	78-8119-8640-1	Union - Elbow, 31820600
15418 - 19	78-8114-4653-9	Joint - 31560600
15418 - 20	78-8060-7861-0	End Cap
15418 - 21	26-1005-6888-5	Tubing 6/4
15418 - 22	26-1005-6889-3	Tubing

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